

# THE AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of Man.—*Washington.*

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NO. VII.

A. B. ALLEN, Editor.

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## CUTTING GRAIN.

WE must make the same reference to former volumes of this periodical in cutting grain, as we have below in cutting grass. Since writing those articles alluded to, all subsequent experience and information which we have gathered, go to sustain the conclusion that when the berry of grain of any kind has well-filled and just begun to glaze, so that passing the end of the thumb-nail over it leaves a slight indenture, is the best time for cutting. A friend in Massachusetts informs us, that he made this his test in cutting his rye last year, and that the flour made from it was whiter and sweeter than any he had ever harvested before, there was more of it also per bushel, and less bran. This looks reasonable; for it is asserted that after this stage of the filling of the berry, longer standing only tends to change the flour into a thicker rind of the grain, and consequently forms more bran. In the case of our friend's rye-flour above, he observed that it was nearer wheat than any he had ever tasted. Two other important considerations in cutting grain early force themselves upon us. 1st. We have more time for the harvest, and are more forward with our work. 2d. The grain shells scarcely at all, there is consequently little or no loss from this source. 3d.

Since the introduction of machines for cutting straw, this is an article which is fast getting into general use for fodder, and the straw saved by early cutting proves greatly more nutritive and palatable to the stock than that cut late. Wherefore, we earnestly entreat our farmers to pay greater attention to the early cutting of their grain than they have heretofore been in the habit of doing.

## THE AMERICAN AGRICULTURIST ALMANAC.

THIS valuable Almanac for the year 1845, has just been published by Saxton & Miles, 205 Broadway. It contains 40 pages octavo, of a size nearly as large as this periodical, filled with useful and entertaining matter for the Farmer, Planter, Gardener, and Stock-breeder. There are double sets of tables in it, calculated for the East and West, and we think this will be found one of the best and most popular Almanacs ever issued. The publishers have put it at the very low price of 6½ cents at retail, \$3 per hundred, and \$20 per thousand. The work is stereotyped, and can be had in any quantity. It is expected 50,000 copies, at least, will be disposed of this year. It is got out thus early, and placed at the extremely low price above named, in order to make it an object to our friends

to favor the publishers with their orders. To any one desiring it, advertisements of a single page or more will be inserted at the additional cost of setting up the matter. By then purchasing a quantity of such edition of the almanac they will avail themselves of a means of making known their business not often found.

#### FARM OF THE MESSRS. LATHROP.

WE have just returned from a ten days' excursion up the valley of the Connecticut, from its mouth to the borders of Deerfield, in Massachusetts, and have been struck with wonder and surprise at the rich and varied beauty of its scenery; but above all, with its great fertility. Several of these localities, comprising the richest parts of the valley, we have not visited since childhood; in the meanwhile, we have wandered over the most vaunted sections of the south and west, and with the recollections of the deep virgin soil of these regions fresh in our memory, we do not hesitate to say, that, with the exception of the Mississippi, not a valley there of the same length, can exceed the Connecticut in width and fertility of bottom, and general capability for agricultural purposes. The meadows of Northampton and several other towns, are equal to the boasted plains of Pickaway, on the Sciota. Here they annually obtain 60 to 70 bushels of corn per acre, with ordinary cultivation; on the Sciota and Miami they can get no more; and yet the Connecticut valley has been hard cropped by the white man for 200 years, and how long before by the red man, no one knows! It is customary with every traveller to harp upon the poverty of New England soil, as if the country were all mountainous rocks; poor, gravelly hills; and famished sandy plains. Such persons know not New England—they have scarcely taken a bird's-eye view of it, and their observation may be set down as of the most superficial kind: for many is the sweet grass-producing mountain there—the fertile hill—and the deep, rich alluvial valley. Its soil, generally, though rather stony, is a quick and grateful one, and when judiciously stocked and cultivated, repays a fair percentage on the capital and labor expended upon it. This is a fruitful subject with us, and we could expatiate upon it to the end of a volume; and though space now forbids extended notices, yet jottings from our notes may be sprinkled over our columns for six months to come. Massachusetts is a glorious old state—we have revisited it with feelings of intense pleasure, and proud are we to add, that here we drew our natal breath—here received our first instruction—and here passed childhood's golden hours.

The Farm of Messrs. Wells and Paoli Lathrop is situated about one mile above the flourishing village of South Hadley Falls. It comprises about 200 acres, mostly of gently rolling land, naturally of a good, strong soil, but previous to their purchase in 1833, it had for a long time been under the *skinning* course of cropping, a "course," we regret to add, which still seems the most fashionable and general in the United States. The first movement here was to stock the land with as

many animals as it would support, in order to make manure for its renovation; they then gathered up all that was to be had at a reasonable rate in the neighborhood, and, in addition, made an immediate resort to plaster, at the rate of 100 lbs. or so to the acre—it costing ground, at the village, \$8 per ton. Some parts of the farm were springy, and abounded with bushes, rushes, and coarse water-grass; these have been drained, plowed, cropped, and laid down to grass; and thus the patches which a short time ago were worthless swamps, are now among the best and most productive meadows. Where three fourths to one ton of hay were formerly cut, two and a half to three tons are now obtained, and there is not a doubt but the other crops have increased in an equal ratio, and that the whole products of the farm, on the average, have at least been trebled by the Messrs. Lathrop since they came into its possession; and we are glad to add, that they do not mean to stop here, but keep on the broad road of improvement, trusting that they may eventually quadruple if not quintuple them. Nor in such expectations need any one be too sanguine; for we can point to several fields where not over 15 to 20 bushels of corn were formerly grown to the acre, which now yield 75 to 100 under a careful system of improved cultivation, and rye, wheat, roots, and grass, in proportion. We scarcely know yet, in the United States, what a farm may be made to produce.

The farm-house, barn, and out-buildings here, are over a hundred years old; but they are neat, and in good repair, and with the old trees surrounding them, present a venerable appearance, which it is pleasing to contemplate. Nearer the roadside, Mr. Wells Lathrop has built him a tasteful residence, in modern style of architecture, with a pretty garden and ornamental grounds attached, belted in against the winds with thick rows of trees.

*The Stock*—This is nearly all of thorough bred Durhams, South Down sheep, and the celebrated Mackay breed of swine. This stock we examined with interest, and must express our gratification of its high value and careful breeding. Princess is a magnificent great cow, and the most extraordinary animal, in one respect, we ever heard of. She is now *nineteen* years old! yet does not look to be over ten or eleven, is in fine condition from grass pasture alone, and, what is most surprising, her flesh and hide still handle, in her old age, better than half the choice cows a dozen years her junior. She brought a highly promising calf last October, which we had the gratification of seeing not only *alive*, but playfully *kicking*, and showing vigor and constitution enough to carry it well through to the age of its dam. Talk about the delicacy of Durhams—their degeneracy of constitution—their want of hardiness and vigor—and the necessity of restoring all these with some ill-bred, coarse, vulgar, dunghill cross! Bah! We have not patience to listen to such nonsense, and shall be infinitely obliged to any one who will show us a cow from this breed, or, rather, *no breed at all*, of the same age, and as enduring as Princess. Come, gentlemen, it is an easy matter to theorize from books, talk glibly, and pen a paragraph; but just be so good as



to leave your studies now, if you please, turn working-men for a short time at least, and come down in to the cattle-yard; there is the place we want to meet you, with sleeves up, and line in hand. We challenge you to the trial. Now be so obliging as to extend yourselves a trifle, and we shall be highly gratified. It can be satisfactorily proved, that many of those cows which are put down in reports in Massachusetts as such famous "native" milkers, are *crosses* of the Durhams! No one is more ready to admit the value of our native animals than ourselves; at the same time, we are not going to stand by and see improved stocks depreciated, more especially when their own offspring are brought out (though, we will grant, probably unwittingly by the persons doing so) as the means of making these unfair and unjust comparisons. Those who boast so much about the native animals, are bound to show, when they bring them forward, that they have not a drop of improved blood in them; and to this proof, for one, we are determined to push them. We will accept of no guessing, no mere assertion, on so important a point. But to resume our subject.

If Princess is so large, we must confess we incline to such animals in the Messrs. L.'s herd as Louisa, Ruby, Lucilla, Adelina, &c.—of a fine medium size. They are the most profitable, and, to our eye, the most pleasing. In June 1842, then only 4 years old, Lucilla gave from 56 to 59½ lbs. of milk per day, which made 14½ lbs. of well-worked butter per week; in October following, she averaged 33 lbs. of milk per day, making 9 lbs. 14 ozs. of butter per week. This year she is doing still better, making rather over 15 lbs. of butter per week, on grass pasture alone, be it remembered; several other cows of this herd are doing nearly as well. Need we add more to convince those who have good pastures, and are determined to keep them so, that Durhams are their best stock? To those possessing lighter pastures, we say, emphatically, take Devons; but all good soils in New England, well cultivated, will easily carry Short Horns. The grade steers bred from these Durhams make first-rate working oxen, as can be shown by Mr. Lamb, and several others, neighbors to the Messrs. Lathrop, and there is this great advantage further in regard to them—they *mature at least two years earlier* than the natives. We were shown animals here of 4 years old, which had been hard worked from the age of 2 years, and yet they were as large as common 6 year olds. They had received no more care in their rearing than any good farmer would naturally bestow on his animals.

The stock bull at present in use here, is North America, out of Mr. D. C. Collins's, of Hartford, Ct., superior cow Narcissus, by Mr. Copes's, of Chester, Pa., imported bull Yorkshireman, from the celebrated herd of Mr. Bates, of England. North America is 3 years old, and a very good animal; indeed, one of the best we know in the United States. He is a decided improvement on the old stock, and we can say the same of his get, of which we saw several quite likely yearlings and calves.

The South Downs were procured of Messrs.

Prentice and M'Intyre, of Albany, N. Y. One of the ewes was imported by the former gentleman. They are pretty stock, and are kept for mutton, this being a more valuable product here than wool.

*Swine.*—Of these the Messrs. Lathrop think they have the pure Mackay, if there is any such thing as this breed being left pure in the country. The history of these animals, and their pedigree, they have at length, and to any one curious on this subject, we recommend addressing themselves to South Hadley. As to these hogs, they much resemble the English and Irish Graziers. They are of fine forms, good size, and of a pure white color. They are thrifty, hardy, and mature early. Their color suits a Yankee's prejudice, and, upon the whole, they may be called an excellent farm hog.

Mr. Alonzo Lamb has an excellent farm adjoining that of the Messrs. Lathrop. It is under a high state of cultivation, with handsome buildings upon it, and a fine stock, principally of high grade Durhams. A noble cow, which he purchased of Mr. Wells' stock, of Boston, is one of the most massive animals we ever looked at, strongly reminding us, in this particular, of Mr. Bates' of England, Oxford cow, though not quite so fine and high bred. We should like to speak of Mr. Lamb's farm at greater length, but are already at the bottom of our sheet; yet will add, he has a 4 year old steer, one of the most superb creatures we have lately seen; with splendid horns, spread wide enough to carry a castle upon their tips. If this animal, well fattened, does not make a show a couple of years hence, we shall be greatly mistaken. We will go a hundred miles then to see him, any day.

#### CUTTING HAY.

In the neighborhood of towns and cities, hay is unquestionably the most important crop of the farmer; it is a matter of no small consideration to him, therefore, that his grass be cut at a proper time, and be secured in the best manner. We gave so full directions on this subject in our July Nos. of both Vols. I. and II., that we now barely subjoin an additional hint or two.

We think it important when the sun shines out clear, and the thermometer is at a range of nearly 80°, to have the grass only slightly spread, unless very heavy and thick on the ground, and cured as much in the winrow and cock as convenient. Made in this manner, the hay retains a brighter green color, and is sweeter and more nutritious. By being retained a day or so in the cock, it undergoes a partial sweating process, which makes it much less likely to ferment, fire, or injure in the stack or barn. If the grass be very long in drying, it changes much of its starch into woody fibre, which greatly injures it; but in ordinary weather, there is no such danger in this country as exists in the cooler and moister climate of Great Britain and Ireland.

With respect to the application of salt to hay as it is put up in stack or in the mow, 4 quarts to the ton has been our usual allowance; but if, from uncontrollable circumstances, it was not as well

dried as preferred, we used 6 to 8 quarts. Many of our farmers are prejudiced against the use of any salt at all in putting up their hay, contending that it provokes the stock feeding upon it to an unnatural thirst; but we know from considerable experience on this subject, that when salted to moderation such is not the fact; for we have often made the experiment in feeding unsalted hay to our stock for a week or two in succession, and then such as was salted as above, and we could not perceive that the animals fed upon the latter drank more at the time than upon the former; and we are certain that they relished the salted hay better than the unsalted, eat it up cleaner, and seemed to thrive more from an equal quantity.

We observe that Mr. Pell, of Ulster county, has been somewhat sneeringly and rudely attacked in a cotemporary paper, for using one bushel of salt per ton in curing his hay nearly green. We beg leave to say, that Mr. P. has good authority (though probably unknown to him) for his practice. One of the best farmers in Massachusetts, a real working man, who has acquired a handsome independence from the sweat of his own brow, informs us that such was his system in curing clover hay upward of forty years ago, which he has continued to a greater or less extent, much to his benefit, to the present day. The practice of high salting is not uncommon in England, and on the Continent, especially in Germany; half a bushel of salt to a ton being the least quantity recommended. Old straw or hay, at the rate of one half to one fourth, is also advised to be mixed in with the new hay thus preserved, according to its greenness, as it is contended that "such will be brought back toward the state of green stalk, by the salt juice absorbed gradually reacting upon its organic constituents, rendering them, in a great degree, soluble, digestible, and nutritious." When old hay or straw is not to be had, bran is recommended instead; first mixing it with the salt, and then strewing it on the hay as it is put up. The following curious method of preserving green grass has lately been tried in Germany:—

Pits are dug in the earth from ten to twelve feet square, and as many deep. These are lined with wood, and puddled below and at the sides with clay. Into this the green crop of grass, clover, or vetches is put, just as it is cut. Four or five cwt. are introduced at a time, sprinkled with salt, at the rate of one pound to each cwt., and if the weather and consequently the crop be dry, two or three quarts of water should be sprinkled on each successive layer. Each layer of four or five cwt. is spread evenly over the bottom, is well trodden down by five or six men, and rammed as close as possible at the sides with wooden rammers. When the pit is full the topmost layer is well salted, the whole then covered with boards, or a well-fitting lid, which has a quantity of earth laid above it for the more perfect exclusion of the air. The grass speedily heats and ferments, and after the lapse of about six days, the whole has sunk to about one half its original bulk, when the lid may be removed and the space filled with fresh grass. When thus fermented, the grass has the appearance of having been boiled, has a sharp, acid taste, and is greedily eaten by cattle. The pits should be kept covered for at least six weeks, after which they may be opened successively as required, and may be kept open till their contents are consumed, without

suffering any injury from contact with the air. One experimenter says, that by giving only 20 lbs. a day of this salted fodder, along with chopped straw, he kept his cows in condition during the whole winter; another states that, on a daily allowance of the same quantity, his cows gave a rich and well-tasted milk.

We commend the above extract to a careful perusal, and instead of sneering at experiments (even supposing them to be carried to an immoderate extent) we wish gentlemen were more in the habit of making and recording them, successful or unsuccessful, as in the latter case they will at least be a beacon of warning to others. Professor Johnston, of Scotland, proposes the following:—

1st. What weight per day of green food, newly cut, is necessary to keep a full-grown animal in a given condition? 2d. What weight of the same green crop, cut in the same state, is necessary, when preserved moist and salted after the German method above described? 3d. What weight of the same grass, when made into hay, after the quick or English method? 4th. What weight, when won after the protracted Scotch method? 5th. What relative weights when in the state of newly-made hay in August, of winter-hay in January, and of old hay in the ensuing summer?

#### LARGE CONSERVATORY.

MR. VALK, of Carolina Hall, Flushing, Long Island, has recently erected one of the largest conservatories to be found in the United States. It is 25 feet wide, 21 feet high, and 180 feet long; with a glazed span roof running nearly north and south, and 3 feet of perpendicular glass in the walls, rising from the ground 3 feet. The architecture of this magnificent conservatory is extremely tasteful, light, and airy; and yet, unites in it great strength. We had a sketch of the same, but the artist having failed in doing it justice in the engraving, we do not insert it. Without the conservatory, on each side, is a border 12 feet wide; from the edge of this, near the walls, choice grape vines are planted, which lead through holes left for the purpose, and are trained up the roof on wires inside. At the sides, within, are shelves running all round the walls for potted plants; in the centre is a trellised arbor, over which are trained apricots, nectarines, and early peaches. This is a new feature, which we have no recollection of before observing in a conservatory; but we have no doubt of the success in growing fine fruit in this manner, and as it is a great economy in room, we wonder it has not before been resorted to. In addition to this, Mr. Valk has other conservatories of smaller dimensions, and a very fine garden. His son, Dr. Valk, sailed for Europe last April, on an amateur horticultural expedition, and with a view also of procuring stock for this conservatory. He will probably return as early as August or September. He was accompanied by Mr. Robert Parsons, of the firm of Parsons & Co., who have such extensive nurseries and gardens at Flushing. We have no doubt that these gentlemen will be highly entertained and instructed in their tour, and come back richly laden with information beneficial to the horticulture of their country. We could wish that such expeditions were more often made by our intelligent citizens.



## NEW YORK FARMERS' CLUB.

At the meeting on the 4th of June, Gen. Johnson in the chair, a communication was received from Mr. Barbour on the present flattering prospects of the silk culture.

Mr. Sharwood, of England, presented quite a variety of seeds for distribution.

Dr. Ackerly, of Staten Island, communicated to the club his practice in agriculture on his farm of one hundred and thirty acres, particularly as to *compost and muck*. It was referred to the publication committee.

*Poultry.*—Col. Clark gave an account of a large poultry establishment he visited in 1819, at Wilmington, Delaware. The owner supplied the Philadelphia markets on a large scale; his plan was, with large moveable fences to keep his fowls enclosed, and he plowed up the enclosed ground frequently, and changing his yard, planted the one left with oats—his fowls fed on it. He had twelve hundred, or perhaps fifteen hundred fowls in excellent condition. They flourished in the plowed ground and oats, and by change of the ground; he had comfortable, thatched sheds for them. It was a profitable business.

*Mr. Hodge.*—Poultry running in wheat fields render a valuable service, and become fat; they destroy great numbers of grubs and insects, and do no harm to the grain, and I even think that it is benefited. The fowls produce more eggs too. How valuable are the races of our little migrating birds, giving us most delightful music, displaying their graceful forms in the air, and engaged constantly in destroying myriads of noxious insects! Dr. Harris, in his treatise on insects, states that a single pair of bluejays, having five young ones, consume two hundred grubs or insects per day; this would be twenty thousand in three months nearly. Suppose, what is probable, one half of these are female, each of which lays about two hundred eggs, then the two jays and their young destroy in one season about *two millions*. Our wanton destruction of the small birds ought to be stopped.

Carbonate of ammonia will drive off caterpillars and the green fly. I have applied the solution of it to plants by means of the syringe (adding one gallon of water to two ounces of the carbonate of ammonia); but worms do not mind it at all. I here exhibit the span worm with a solution put upon it. It disregards it.

*Destroying Insect.* Mr. Hodge.—In France and Belgium the farmers are fined for not killing noxious insects. *It would be better to give to children so much a quart for them!* The proper time to attack them is when they collect in their nests. As to this span worm, he is easily shaken off a tree.

*Mr. Fleet.*—Mr. Harvey, the landscape painter, hung on his trees large mouthed glass vessels partly filled with honey and vinegar, or with molasses and vinegar. These vessels caught chiefly in the night, large numbers of insects of great variety of kinds. It is a good practice!

*Mr. Townsend.*—I have three beds of cabbage plants. I burned their surfaces. I have one which I have treated with *poudrette*. On the burned bed I added ashes. In some spots of this

bed insects are on the plants, while on my *poudrette* bed no insect is to be seen; but the plants are very fine and vigorous. These plant beds of mine were all sowed at the same time, and in all other respects treated alike.

*Mr. Holmes.*—A friend of mine makes a *mop*, dips it in spirits of turpentine, and applies it to the nests of the worm, and it kills them.

*Mr. Brown.*—Guano has been found good for destroying vermin by fumigation. Also sulphur, tobacco, and red pepper seed.

*Col. Clark.* Insects abound in earth, air, and water. Many of the races are carnivorous, devouring other insects. Many open little sluices in the soil, conferring on the farmer a benefit analogous to the celebrated modern process *sub-soiling*.

## STIRRING THE GROUND IN DRY WEATHER.

This and the next month are those in which we usually have our most severe droughts, and where irrigation can not be resorted to, there is nothing like frequent stirring of the earth to obviate its bad effects. This in light soils, which suffer the most, is always easily effected; the best time for the operation is early in the morning and toward evening, when the dew is on the ground. The most perfect instruments for this purpose, are, the cultivator with five double mould plow-teeth in it, followed by a triangled harrow of a proper width for the rows of whatever crop it is to be used among, full of fine sharp teeth made as long as the utmost depth to which they can penetrate the soil. The philosophy of frequent stirring the earth to obviate a drought is so fully explained at page 78, Vol. I., that we need not again soon repeat the observations then made.

## SHOW OF THE AGRICULTURAL, HORTICULTURAL, AND BOTANICAL SOCIETY OF JEFFERSON COLLEGE.

I sit down to give you a brief report of our spring agricultural show, which came off yesterday. We have had a very interesting meeting, and the attendance, all things considered, was very full indeed. Several other calls of interest occurred, unavoidably, on the same day, in our neighborhood, drawing off a great many; and the roads are insufferably dusty, from the long, severe and ruinous drought we have had, and still have. Nevertheless, *we who do the work* have great cause of complaint to make, that on a subject of such vital importance to their interests, as *improvement in all things agricultural*, planters show so much apathy. On the occasion of a very interesting trial of the comparative merits of a number of agricultural implements, which occupied a committee appointed for the purpose, during two hours in the morning, there were but some fifteen or twenty planters on the ground! But, from the many expressions of regret, which I have since heard, for non-attendance, when it became known how much of exceeding interest they had missed, I am confident that at the October trial, we shall have a *crowd*. It is upon this part of the exhibition that I have most to say, as my time and attention during the day, were too much taken up to give the

stock and other things more than a cursory glance. I will forward you papers with the reports of committees at length,\* and pass on with the remark, that the number of cattle and horses was, I thought, fully as great as at any previous meeting, some of them being remarkably fine.

Of bulls, Mr. Hall had a very handsome two-year old white bull, which in my estimation rated *first*; he is a compact, well-made animal, and *handles* well. Col. D. Cooper, from Wilkinson county, exhibited an aged bull which I must place *next*, even over the head of Mr. Hall's mountain of beef, Belzhover—in my opinion there is no comparison between the two animals, though I know that I could find few *here* to side with me. There were also two younger bulls, the property of Samuel Chamberlain and D. P. Jackson, that were very fine. Of sheep and hogs, the show was a poor one; every one being, like myself, afraid of the excessive dust. Col. Wailes exhibited a pen of very good sheep. In vegetables and flowers too, we were sadly wanting—caused by our long drought. Col. Wailes, the Rev. Mr. Whielden, and Dr. Butterfield, occupied one of the college halls with their fine cabinets of stones, minerals, fossils, &c. Col. W. has a most valuable collection, particularly of agates, madrepores, cornelians, &c., and of fossil and Indian remains. Mr. Whielden exhibited a miniature cage, of broom-straw, in which were some dozen silkworms in the act of enveloping themselves in their silken covering, by them lay a number of others, in different stages of growth, feeding.

But to the implements. At about nine o'clock, the committee commenced operations on a piece of ground here, on Ingleside. From the printed report you will see what plows, &c., were on the ground, and also the opinion of the committee, which you would oblige many here by publishing,† and confer too a more extensive benefit upon your makers of such things, if they will act upon it as they ought to do, than they are probably aware of. From the opinions there given, I must beg leave to differ somewhat. The fact is, we know so little here of how implements of cast-iron answer the purpose, that there is a strong prejudice against them, which, however, would quickly give way to conviction. Ruggles, Nourse, & Mason's plow is a very large and heavy implement,‡ my objection to which I will give presently. It turned over a regular furrow of from 12 to 13 inches, by 6½ inches; while the two others that were tried turned only about 8 to 9, by from 4 to 7 inches. In my opinion the teams *did not* exert themselves more with the eagle plow than with the others, and the hand had not half the work to do—then see the difference in the amount of work done. The ground was very dry, and had been much trodden, yet the eagle plow laid it neatly over, covering up

the weeds completely, and leaving the ground well pulverized, and ready for any kind of crop; while the other plows ran very unsteadily, giving the plowman much to do, and turning over a very irregular furrow, throwing up the ground in large clods, gouging them out, as it were. Wood's plow has been many years in use here, and gives universal satisfaction, doing excellent work when the ground is in fair order: and they are light, strong, and cheap, costing \$6, to \$7 and \$8. But when brought beside this excellent Boston plow of Ruggles, Nourse, & Mason, it was completely left behind, so much so, as to open the eyes of all present. One of the committee remarked, that though he had been a farmer all his life, he had learned more of plows and plowing during these two hours than he ever knew before! There is no necessity for our plows and other implements being so strong and heavy as with you—we have no stones. Then our teams are lighter—the weather greatly hotter, so that animals can not stand so much. We are almost all too short of team, and of consequence have, at times, to work them too many hours. But I will go more at length into this matter in an article I have nearly ready for you, on *Implements for the South*, with rough sketches of some of my improvements. Our plows, however, want *length*, to give them *steadiness*.

Let Ruggles, Nourse, & Mason, and others of your best makers, including Prouty & Mears, and Barnaby & Mooer, send to our fall Show some plows made for the south, and such as they can furnish us with here at fair rates (my side-hill plow cost me here \$18.50, Ruggles & Co.'s with coulter and wheel, \$13) and they will open up for themselves a good market. We are tired of sending for implements without first seeing them. If they will forward them from Boston, they will come to the society free of charge, (see report.) Let them consign them to Wm. I. Minor, Esq., our president, and have them reach us by the middle of October, and they shall all have a fair trial, and will afterward be sold by the society, and the money remitted to the owners, or disposed of otherwise as may be ordered. Is there no possibility of sending us a correct dynamometer at same time? If there is, let me know the cost, and the society, or some of its members will remit you in time to send us one. If the owners of the plows so desire it, they will be forwarded to shows in the adjoining counties of Jefferson and Wilkinson, and exhibited there also.

THOMAS AFFLECK.

Ingleside, Miss., 27th April, 1844.

#### POLLED GRADE DURHAMS.

I wish to return you my thanks for the information you have vouchsafed me in your May No., but must ask your forgiveness if I do not attach implicit faith in the purity of the strain of any  $\frac{3}{4}$  or  $\frac{1}{2}$  blood Durhams without horns. I don't mean to impeach your veracity, or to deny the possibility of such a phenomenon; but when we consider that for an animal of the higher grade named, *five* generations, and at least fifteen years, must have intervened from the the first cross, I think it more likely, unless the instances spoken of by you

\* We received these papers, but they have unfortunately got mislaid, which prevents our giving a synopsis of the reports.—Ed.

† This we have never received, and shall be quite obliged if Mr. A. can yet furnish it for us.—Ed.

‡ Since the reception of this report we have forwarded Mr. A. smaller plows of Ruggles, Nourse, & Mason's manufacture, which we are certain will please him, for a single mule can draw with ease the smallest one we sent.

Ed.



were bred under your own eye, or of equally experienced professors of the art of breeding in all its branches, that some clandestine irregularity may have occurred to stamp the progeny with the deficiency in question. (a) I am aware that the Short Horns have a touch of the Polled breed; but it is far back, and would have shown itself more generally than we find to be the case, if there were so strong a tendency in the cross to show itself, as one might be led to believe from your assertions: at any rate, its occasionally happening must constitute an exception and not the rule; you are not thereby justified in deciding, *ex cathedra*, upon bare inspection, that a Polled cow was three quarters Durham, of whose parentage nothing was known. You have not communicated to the public upon what grounds (other than the want of horns) you based your opinion; if you have any other we should be obliged to you if you will state them. (b)

Besides, there is a well-known tendency in the Galloway with which Mr. Collins crossed his Short Horns, occasionally to produce diminutive horns; showing that the probabilities are altogether against any Polled animal being of three-quarter or any higher grade of Durham blood. (c)

"Put that cow in good condition," you say, "and to our eye she would be anything but a raw-boned animal." This sounds very much like admittance of the very error you reprobate, that of judging cattle not by their *anatomy* but their *condition*. Would she be *less raw-boned* if she were put into good condition? (d)

The mode of proof I should propose would be of a directly contrary nature, and the scraping the flesh off the bones would, I presume, be a better test of their fineness than putting flesh on. As you undoubtedly include your humble servant (e) in the number of those who pronounce such "very erroneous decisions upon stock at our agricultural shows," and who think "a lean beast must be raw-boned and coarse, and a fat one fine, with smooth bones," you will pardon me for saying, that the error I have fallen into, if it should prove to be such, may have arisen from my unconsciously drawing a comparison in my own mind, between the frame of the cow Emma and those of certain grade Durhams in my own yard, without waiting until they were put into good condition. (f)

Our relative correctness on this point may, however, be put to a strict test by *actual admeasurement* of the highly valuable creature referred to, and then contrasting it with that of bona-fide Durhams, or cattle with avowedly fine bone.

When this point has been satisfactorily settled, it will then be time enough to look round for those "cows of the ordinary Polled breed, with," as you make me say, "forms as good as Mr. Schenck's cow;" until then we should hardly agree as to what were so.

JOHN W. KNEVELS.

(a) Our authority on the point in question, was derived from an English breeder of the highest respectability, one who kept a regular record of his animals, whether grades or thorough breeds, and we have no more doubt of the fact than if we had bred the one we had reference to ourselves,

and all its ancestors. Nothing is more common in the Smithfield market, in London, than half to three fourths and seven eighths grade Durham bullocks, descended from the black Polled Scotch cow; and yet the color of these grades is more generally all black, and they are usually without horns, or merely show the smallest possible apology for horns, short stubs occasionally, hung loosely to the head by a stringy integument not much thicker than the skin.

(b) Even allowing an "exception," we (that is, the writer of these remarks and the one who was with him, an English breeder of much experience) think our judgment quite as correct in supposing Mr. Schenck's cow might come under this category, as Mr. Knevels, that she might not. We at least are *two* to one thus far in the matter, and according to the principles of the government under which we reside, our *authority* must be decisive. This last expression is *badinage*. But as it is a mere matter of opinion, in which either party may be right or wrong, we shall not argue the point. If Mr. K. will turn to our second vol., p. 270, he will find the "grounds" upon which our "opinions were based" expressed in full, viz., "a good spread of hip; long head; low, deep brisket; handles well," &c., &c., all marked characteristics of the thorough-bred Durham, which no other breed of cattle possesses in the same eminent degree. My own opinion, and that of my friend with me, were not expressed till after handling Emma pretty thoroughly, and scrutinizing her in every point, and talking the whole matter over minutely between us, and this opinion the public can take for what it is worth and no more.

(c) To all this we can say, that facts which we have not space to relate, are entirely against the "probabilities."

(d) By "raw-bones" we understand Mr. K. to speak in the popular but erroneous acceptance of the terms, *coarse-bones*. We will therefore take this correction, and say, that when the bones of an animal are thickly clothed with fat and flesh, they do appear relatively finer to the general eye than when "raw," or, in other words, when the animal is in poor condition. We endeavor, now, in forming our judgment as to the coarseness or fineness of an animal's bones, to divest them in our mind's eye of all flesh, and regard them relatively in their nakedness. Under this phase we consider Mr. Schenck's cow a medium animal as to fineness of bone.

(e) We regret that Mr. K. should suppose us personal in our allusions: we meant to be understood as speaking generally; and if he will reperuse the passage, with its context, we think he will be convinced of this assertion.

(f) If Mr. K. has better grade Durhams than Emma, we are happy to hear it, and shall want no other evidence in saying that his stock must be a choice one; and, to conclude, we shall be ready any time to take a tape line in hand, and go on a *measuring expedition* with him. By so doing, we are certain that we should be placed in the way of hearing much shrewd observation, and acquiring some good lessons on the subject of stock breeding.

## REVIEW OF MR. DANA'S GEOLOGY OF SOIL.

THE most striking effect on the mind in perusing Mr. Dana's Muck Manual, is the manner in which he assumes deductive facts at will, and his dogmatic mode of forcing them on the reader, without in any instance offering a reason for his bold assumptions.

At page 7, he asserts, that "however named and classed are the rocks of the earth's surface, they have one common origin, the molten-matter of the globe. Hence, having a common origin, their ultimate chemical constituents are similar."

What says Buckland?—"Geology has already proved by physical evidence, that the surface of the globe has not existed in its actual state from eternity, but has advanced through a series of creative operations, succeeding one another at long and definite intervals of time." Page 20, vol. 1st.

Mr. Dana, page 9, says, "The chemical constitution of all rocks is similar." Again page 10, "The trappean and fossiliferous rocks contain the most lime and magnesia; the granitic and non-fossiliferous, the most siliceous. The amount of this difference is about from four to seven per cent.; yet notwithstanding this, the general chemical constitution of all rocks approaches so nearly to identity, that this may be laid down as the first principle in agricultural chemistry, that there is one rock, consequently one soil."

We must infer from this, that the chemical constituents of granitic and calcareous rocks are the same; and also that the same soil will be produced from the debris of the two rocks. I need not point out to any chemist, mineralogist, or geologist, the absurdity of such an unwarranted assumption!!

Mr. Dana goes on to assert, page 10, that "to the farmer, all soil is primary. The question then arises, how do rocks and soil affect vegetation? As a consequence of the first proposition, it may be laid down as the second principle of agricultural chemistry that rocks do not affect the vegetation which covers them."

The first proposition is evidently absurd, that "all soil is primary;" but if true, what connexion is there between this and the deduction, that "rocks do not affect vegetation?"

In answer to this unsupported assertion of Mr. D., I would ask him, why the soils covering limestone rocks are in all countries the most productive? Sir Humphrey Davy says, "The productiveness of soil must likewise be influenced by the nature of the subsoil, or the earthy or stony strata on which they rest, and this circumstance ought to be particularly attended to in considering their chemical nature, and the system of agricultural improvement."

At page 21, Mr. D. makes the following remarkable and extraordinary assertions!! "The same uniformity of chemical composition characterizes soil, which characterizes rocks; that is great similarity, but not identity, and it is on limited patches only, that soil partakes decidedly of the character of the underlying rocks."

"The extensive analysis of soil, executed by the geological surveyor of Massachusetts, taken from every variety of rock-formation, presents a remark-

able uniformity, both of chemical constitution, and mineralogical composition of the earthy ingredients. The same truth is presented by the analysis of soil from various parts of the globe. *It is a conclusion, warranted by the widest examination,* that the mineral constituents of 100 parts of the soil of our globe, is composed of sand or silicates 89.28; salts of lime 00.85."

The extracts I have made afford a fair specimen of Mr. Dana's reasoning in his geology of soils. It is throughout a series of dogmatic assertions totally unsupported by scientific facts. Europe has produced many celebrated analyzers of soils, and their results are altogether at variance with Mr. Dana's positive assertions. Vauquelin was an analyzer of soils, and the process prescribed by him, in the *Annales de Chimie*, 30th vol., is the best which has yet been offered. Lowitz, Berthier, Berzelius, Dundonald, Kirwan, Young, Gay Lussac, Thenard, Davy, Tillet, and many others in Europe, as able chemists in our own country, have been analysers of soils, and not one of them ever gave such results as appears in Mr. Dana's geology of soil.

I shall quote three results of analysis of soils, two by Sir H. Davy, and one by M. Tillet, all widely distant from each other. Sir H. Davy remarks that "those soils that are the most productive of corn [grain] contain always considerable proportions of aluminous or calcareous (lime) earth, and most generally both, in a finely divided state."

"The quantity of calcareous earth is however very various, and in some cases exceedingly small. A very fertile corn soil from Ormiston in East Lothian afforded in a hundred parts only eleven parts of calcareous earth; the finely-divided clay amounted to forty-five parts."

"A soil from the low lands of Somersetshire, celebrated for producing excellent crops of wheat and beans without manure; I found to consist of 11 per cent. of sand, chiefly siliceous, about 70 per cent. of lime, about 5 per cent. of vegetable matter, and other minor ingredients."

The most productive soils around Paris, was found by M. Tillet, "to be composed of 36 per cent. of aluminous clay, 24 per cent. of river-sand, partly siliceous, and 37 per cent. of limestone."

Here we have correct analyses of productive soils from Scotland, England, and France; the first containing 11 per cent. of lime and 45 alumina; the second requiring no manure, about 70 per cent. of lime, and the third more than 36 per cent. Yet in the face of such high authority, Mr. Dana decides that "in the mineral constituents of 100 parts of the soil of our globe, there exists but a fraction of one per cent. of lime." As he obtained his information from the analysis of the soil of Massachusetts, we can no longer be surprised at the sterility of that state, and at her having to buy the principal portion of her grain from more favored states.

Mr. Dana admits that limited patches only of the soil of the globe may partake of the character of the underlying rocks. Such admission is not required to disprove the positions laid down by him. Without knowing anything of geology, it must be evident to the most unscientific observer that Infinite Wisdom did not place such immense



layers of carboniferous rock, covering the face of valleys and mountains of more than half of the surface of the globe, without designing it for beneficial purposes. The sun and air decompose such rocks on the surface, the rains wash off the parts decomposed, carries it into the valleys, where it mixes with various other matters, and the carbonic gas supplies vegetation with more than 60 per cent. of its food. If only a fraction of one per cent. of lime were found in the soil of the globe, then must the evident wisdom and benevolence of the Supreme have been overruled. As this is impossible, the probability is that man has misinterpreted his operative action.

Even granting the absurd theory of Mr. Dana, that "there is but one rock and one soil," his analysis of that rock and soil is anything but correct; and if he obtained his information from the geological surveyor of Massachusetts, then must we decide that the surveyor was, to say the least, a very incompetent analyzer. Mr. D., page 8, classifies the primitive rocks, as granite, gneiss, sienite, greenstone, porphyry, basalt, &c. Let us see whether these rocks afford 89.28 siliceous, and only 85 of one per cent. of lime.

Primitive granite is composed of siliceous, 68, alumina 14, lime 2.33, potash 9. Granite is composed of siliceous, mica, and felspar, and the above analysis is taken on the supposition that each are in equal quantities, but it is well known that the felspar is generally the predominating material, which would lessen the proportion of siliceous materially, and increase the alumina and lime.

Gneiss contains much less siliceous than primitive granite, more alumina, and more oxide of iron.

Sienite is distinguished from granite by the presence of hornblende—this mineral contains 42 siliceous, 12 alumina, 11 lime, 2.25 magnesia, 30 oxide of iron. Red felspar is the predominating material in sienite—components 62 siliceous, 17 alumina, 3 lime, 13 potash.

In greenstone the hornblende predominates, siliceous and mica are rarely found in it; the felspar is in this mineral always green or greenish. See components as above.

Porphyry is a compound rock, varying much in its base and in its mineral structure, containing quartz and felspar in a crystalline state.

Basalt varies much in its properties, it gives from 42 to 56 siliceous, from 15 to 30 alumina, from 8 to 10 lime, and from 8 to 25 iron.

In my next I shall review Mr. Dana's chemistry of soil.

WM. PARTRIDGE.

#### PROFITS OF POULTRY.

I NOTICED in the last number of the American Agriculturist, some queries propounded by a correspondent over the signature of "H. C. M.," in regard to the profits from, number of eggs obtained, and amount of food consumed by a given number of fowls per year.

Now, sir, in the first place, I would recommend to your correspondent to try the experiment himself, even if it be on a small scale, say from 12 to 20 fowls. Keep an accurate account with them, charge the cost of the fowls, the food they con-

sume, and all expenses attending them. Keep an accurate account of all the eggs obtained, all the chickens raised; and at the end of the year credit the eggs, and the stock on hand, and the queries will be answered. But, as he probably wishes to avail himself of the experience of others, and jump into the business at once, I will endeavor to gratify him by giving the result of some of my experience.

When I first moved on to my farm, I kept about 100 fowls, which were allowed to run and roost where they pleased, annoying me in the garden, destroying my grain, and soiling my implements, and from which we did not obtain over 1000 eggs and about 60 chickens, during the year. I then built me a poultry-house, and enclosed about one fourth of an acre of ground with a picket fence, between six and seven feet high, placed the fowls in it, and commenced keeping debit and credit with them. In six months and seven days we obtained from 60 hens 2655 eggs. The year following, from the same number of hens we obtained over 4000 eggs.

Hens that are well fed, and attended will average about 90 eggs each per year; and they will consume about 38 quarts of grain, in proportion as follows, per head, in the same time.

The amount consumed within the year, of the different kinds of grain, was

91 bushels of wheat-screenings,....	21 c.....	\$19,11
6 " rye,.....	62½.....	3,75
11 " millet,.....	62½.....	6,87½
2 " corn,.....	56½.....	1,12½
3 " barley,.....	50.....	1,50
2 " Indian meal,.....	100.....	2,00

115 bushels.....\$34,36

Amount of eggs and poultry sold was.....\$56,79

Leaving a balance of only.....\$22,43

We were more fortunate last year, as will be seen from the following. Our stock consisted of 84 fowls including cocks; 3 turkeys, 7 geese, 2 ducks, and 2 guinea-fowls, which was of course much increased in the spring and summer by the young reared. They consumed

71 bushels wheat-screenings,....	15 c.....	\$10,65
4 " millet,.....	50.....	2,00
14½ " corn,.....	42½.....	6,17
30½ " oats,.....	24.....	7,26
8 " potatoes, boiled,.....	25.....	2,00

127½ bushels.....\$28,08

We obtained 4152 eggs, average 1 c.....41,52

80 fowls, sold for.....47,15

32 bushels manure, sold

at 18½.....6,00—94,67

Profit,.....\$66,59

These fowls were confined in a yard and allowed as much grain as they would eat, it being kept constantly before them, changed often, and in the winter boiled potatoes were fed to them warm, and occasionally animal food. They were plentifully supplied with lime, gravel, and water. Some allowance, however, must be made in regard to the amount of sales, as many of the fowls were of fancy breeds.

Persons living near a city or village, will find poultry to pay much better than those living at a distance, which, in a measure, will account for the difference of opinion in regard to the profits arising from them. Then again, in the hands of some, they will be made profitable, while in the hands of others they would be a losing concern. Much depends on management; and I contend, that with proper management, and favorably situated, fowls can be made as profitable, according to the capital invested, and labor employed, as any other branch on the farm; but like all kinds of business, to be successful, it must be attended to. In raising or managing poultry, as with most other things, a little experience is worth more than a great deal of theory.

Where eggs is the principal object the Poland, or crosses of the Poland, are undoubtedly the best, as they very seldom want to set. I consider it most profitable to sell the eggs when high, and let them hatch when the price is low.

On many accounts, and in favorable situations, geese can be made profitable. They will live on grass in the summer without grain, their feathers are valuable, and their carcass, when young and fat, will command a fair price. But to counter-balance this, unless confined to a single pasture, they are not only troublesome but destructive to grain or grass in meadows. In order to obtain a good crop and the best of feathers, it is requisite that they should have a stream or pond of water to resort for washing, &c. C. N. BEMENT.

*Three Hills Farm, May, 1844.*

#### THE CULTURE OF TOBACCO.—NO. II.

TOBACCO requires for its successful cultivation two conditions—an abundant supply of proper saline matter, and secondly, a sufficient source of ammonia.

In the mineral earth the former condition may be present, but the second as long as the soil is untouched is absent. The saline matter is however but very sparingly dissolved, while the plants require a large supply, and especially during the earlier periods of growth. The indications are therefore clear enough, and may be expressed under three heads.

1st. To pulverize the soil, or give it porosity.

2d. To hasten the solubility of the necessary saline substances.

3d. To secure a supply of ammonia.

1st. *To pulverize the Soil.*—When it is adhesive and wanting in porosity, it must be rendered fine. This may be accomplished by many means, in different localities. If lime is abundant, and the land a stiff clay, it should be used freely, drainage may be necessary, admixture with vegetable matter, as leaves, sawdust, muck, fallowing crops, burning clay, repeated stirring, rolling, &c.

By pulverizing the soil two important points are attained: First, the greater absorption of gaseous matter, dew, and fluids from the air: and secondly, the means of dissolving saline matters are increased. Beside these advantages, the plant is enabled to draw food from a much greater extent,

and the improvement, if properly made, is a permanent advantage to the land.

The absorption of gaseous matter is increased to an extent directly proportional to the fineness, and looseness of the soil. This requisite to fertility is certainly appreciated by many farmers, but there are none who are fully alive to its capabilities. So much may be accomplished in agriculture by attending to this one point that it may be made the first, and only principle of successful farming, provided the mineral composition of the earth is suitable. Every one is now aware that plants will grow and flourish in charcoal-powder watered with rain-water, sufficient saline matter being present. Yet the charcoal, properly so called, independently of the bodies which adhere to it, furnishes no part of the food of plants, not so much as the clay of the field. It acts in consequence of its extraordinary porosity in absorbing and holding a sufficient amount of the carbonic acid, and ammonia of the air, to answer the necessities of the most luxuriant vegetation. Its action is undiminished for years so long as it is in contact with air. There may be a slight difference in the proportions of gaseous matters which clay absorbs, when compared with charcoal, but leaving that out of consideration, it may be proved that if the clay of the surface-soil could be reduced to the same condition of porosity, it would perform the very same office as charcoal, and constitute in itself a sufficient material whereon the most luxuriant plants might be raised, provided as before the necessary saline matters were present. Common clay can not be brought into this state of maximum porosity by mechanical means, for it differs from charcoal in its intense cohesion for water: but when it has been burned, this point of difference is destroyed and the two now resemble one another very closely in this physical property, and are equally known, as well as coal-cinders which act in the same way, as fertilizing agents.

The doctrine advanced is not new, the indefatigable Jethro Tull, as the result of mere experience, wrote on it, and secured among other illustrious disciples the name of Duhamel. Liebig applying the measures given by Dalton for the absorbent power of box-wood charcoal, and which are very far beyond an expression of the real absorption by pine charcoal exposed to moisture on the open field, was the first to account for one feature of the advantage gained by pulverizing the soil. But neither he, nor any other writer on agriculture, has alluded to the fact, that dissimilar soils absorb unequal quantities of the components of the atmosphere. This is a topic of great importance in practice, and should be submitted to rigid experiment. From this investigation will appear the reason why certain iron-stone lands and fine clays are so decidedly superior to loose sandy soils. It leads also to the conclusion, that an addition of barren sand to clay is injudicious on the whole, for the same expense directed to burning the surface, or turning in green fallows would lead to much more real advantage.

It may be urged by my readers, that one of the facts, previously so much insisted on, proves of no consequence here, or that there is a contradiction



between the statement now made, *that enough carbonic acid and ammonia can be obtained from the mineral earth to support luxuriant vegetation*, and the previous assertion, that a certain class of plants are to be found only on soils rich in vegetable matter. There is however no contradiction, but a truth of great interest to the farmer involved in these facts. They are both practically correct, both made the basis of successful agriculture in extensive districts of country, and both lauded to the skies as the true method of culture. As a proof I refer the reader to part I., vol. 4 of the Journal of the Royal Agricultural Society, he will find, beginning at page 267, an account of the practice of paring and burning resorted to in the Roothings District of England, with its great success. Here are farmers laying down land to meadow, for the purpose in a few years of breaking it up to burn, when it has accumulated vegetable matter; and when other equally intelligent farmers would consider it in a fine condition to turn in as an improvement to the land. Both are right in their practice, there may be a difference in expense, which I will not now consider, but both operations, although come at as the result of experience, and of great antiquity, are yet founded upon the very *same scientific principle and accomplish the same indication*.

Again, we learn by the result of the foregoing practice, as well as from investigations with charcoal, that those plants such as tobacco, Jamestown-weed, wheat, &c., which do not draw sufficient nitrogen from the air for luxuriant growth, may be abundantly supplied in a highly porous soil, solely of mineral earth, without humus. That decaying vegetable matter is not to them food, but only the gaseous bodies which they yield by decay, that the same gases absorbed by certain porous minerals from the atmosphere are adequate to their development.

The farmer, therefore, is put in possession of an important principle, which may be satisfied by very dissimilar practice. He learns that vegetable matter is unnecessary to fertility, where his soil is sufficiently ameliorated by burning for increased porosity, or that if burning is improper, as in sandy and lime-stone soils, he can secure the object aimed at by impregnating the land with vegetable matter or adding charcoal or burnt clay from elsewhere.

But the pulverization of the soil does not improve it merely in a mechanical sense, there is another great advantage gained. It assists in a very important manner in attaining the great object of increasing the amount of saline matter rendered soluble. I here disregard all consideration of porosity, and suppose the mineral earth as reduced to an extremely fine powder, or at least offering an immense amount of surface if not in fine powder. A highly porous substance, as charcoal or chalk, does not expose to the air merely its visible superficies, but every pore and cell presents its sides and cavities. It is this extent of actual surface which I am considering, and not the mechanical size of the particles, although it is possible to attain immense surface by reducing them considerably. In the loose, friable soil, saline matter is rendered soluble much more rapidly than in the

adhesive and hard masses. For, as is well known, the surfaces of solids increase in a much higher progression than their diameters. The smaller therefore the particle, or the more porous the structure, the greater the extent of surface exposed, and the larger the quantity upon which the carbonic acid water and other solvents can act. Much more water is held by such land, and with the gaseous substances always present, the greater the rapidity with which saline substances are dissolved. With respect to burnt lands there is an additional advantage which is of a chemical character, viz: the facility with which certain silicates are dissolved; on this topic however I may treat hereafter.

The science of agriculture is not so transparent an affair as many persons suppose; it is not the perusal of a theoretical treatise that is sufficient to convert the tyro into a sage. Even Tull, who, albeit without much science, was an exceedingly good observer, fell into a lamentable error when he supposed that friability of soil was the only essential to fertility. There are soils with a maximum fineness which are defective. I have had during the present summer, an opportunity of meeting with a very striking case, in a specimen submitted to me for analysis by R. L. Pell, Esq., which was so remarkable for its fineness, that on showing it to an experienced farmer he pronounced it extremely fertile; yet it was barren in consequence of the want of lime, as was developed by analysis. Therefore we repeat, that the necessary saline matters must be present.

So contradictory is the practice of paring and burning to the more common method of accumulating vegetable matter in the soil, that those farmers who have never adopted the former are incredulous about its expediency. In the first, the vegetable matter accumulated by grass roots is made the fuel; in the ordinary method, the same organized substances are treasured up as the great acquisition of the farmer. It is in consequence of turning so much attention to one only of these processes that Liebig and Boussingault respectively, have advocated theories of agriculture so dissimilar.

Liebig, in his last work, lays down the doctrine that saline matters are the true and only fertilizers; while Boussingault, impressed with the great advantages of ammoniacal substances, declares that the value of manures is directly as the nitrogen they contain. These views, so discordant, are nevertheless the expressions of the culture of different countries. While the husbandman of Flanders and China knows nothing in nature equal in fertility to urine, the Egyptian dresses his soil with the *ashes only* of camel's dung, or to bring the practice more clearly before our ideas, he burns the stable manure for the sake of the ashes. In the same way, in Europe, more especially in the British isles, vegetable matter of the soil is burnt and the ashes only retained. Both these national practices are successful. In the opinion of the people of Flanders, Liebig is wrong and Boussingault right; in Egypt Liebig is right and Boussingault wrong. These dissensions are unfortunate. Agriculture as an art, has been the centre of the most contradictory notions; but science admits only

of one true theory. Both these eminent men have erred in seizing upon one fact as the basis of a doctrine. There can be no question that the Flanders husbandry is right, so far as common farming goes, because it is successful—nay, there is no doubt that if those people were to burn the excrementitious matters they use, they would destroy their prospects. That is to say, if they adopted the one principle of Liebig they would ruin their fortunes. On the other hand, if the man of Egypt should pay for the *nitrogen* of fresh camel's dung, he would be making a bad investment. These men till different soils: that of Flanders is sandy, loose, but not naturally friable; it filters off water, but does not absorb and retain atmospheric gases. In Egypt, the soil is made from the annual sediment of the Nile; nothing can be finer, more friable, more porous.

Both Liebig and Boussingault have erred in laying too much stress upon one condition of fertility; you may read their works without supposing there is any other than that laid down by either. But there are two essentially distinct and essentially important principles in the cultivation of such plants as tobacco and wheat.

1st. The presence of saline matters.

2d. The presence of ammonia, &c., in the soil, either in virtue of an abundance of decaying vegetable matter, or by reason of the porosity of the soil.

This long digression will now appear not unnecessary. As a writer in a journal which passes into the hands of planters cultivating very dissimilar lands, I could not recommend a proceeding only suitable to a limestone soil; and as a scientific man, I would not allow myself to fall into the vulgar error of laying down one plan of improvement as suited to all which was in truth proper only to a specific tract. Let me be well understood: the two principles laid down, if correctly apprehended, point out the method of treatment to be pursued in every case, but I leave the question of expediency and profit to the farmer; he must decide whether, to attain the second desideratum, he will burn a stiff clay, or fallow, with clover; both will answer the end, but the former is more durable, for a good burning will show its effects for seven or more years. In sandy tracts we may improve by fallows, charcoal, &c., but can not by burning, which increases the looseness of the soil. Limestone lands must not be burnt, for obvious reasons. D. P. GARDNER, M. D.,

Lecturer on Agricultural Chemistry.

New York, June, 1844.

#### CULTURE OF THE SUGAR-CANE.—NO. II.

*Manner of Cultivation.*—In Georgia the cane was cultivated differently from what it was elsewhere. It naturally took the course of our cotton culture of the seacoast; to wit, ridges at five feet apart; a trench was opened on the top of the ridge, three inches deep, in which a double row of cane-plants were placed, cut about two feet long, and placed so as the eyes which are alternate, should be on the sides, and then covered with two inches of earth. This you may suppose in a good

season gives a continued line of stalks, not more than three inches apart, and throwing up cane five or six feet fit for the mill. I have often supposed that there was growing of vegetable matter to the acre, from 30 to 40 tons, certainly containing more nutritious matter for stock, than any other plant would give upon the same surface.

In Louisiana they planted altogether with the plow, and had their trenches not more than 2½ feet apart; they have since gradually widened their distance. When I was there, they used generally the old French plow, with a wheel at the end of the beam. With strong teams, they plowed deep and better than anywhere I had seen in the southern states. It was by means of the plow, that they planted so many acres to the laborer; and again, because they had little grass upon their river-lands except the nut-grass. This absence of grass-seed I have often wondered at; and at last, could only attribute it to the great distance at which the cultivated highlands were situated; so that the seeds that the winds or the birds might waft to the river, were swelled and burst, and lost their vegetative power before they reached the lower Mississippi, or sugar country.

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of one true theory. Both these eminent men have erred in seizing upon one fact as the basis of a doctrine. There can be no question that the Flanders husbandry is right, so far as common farming goes, because it is successful—nay, there is no doubt that if those people were to burn the excrementitious matters they use, they would destroy their prospects. That is to say, if they adopted the one principle of Liebig they would ruin their fortunes. On the other hand, if the man of Egypt should pay for the *nitrogen* of fresh camel's dung, he would be making a bad investment. These men till different soils: that of Flanders is sandy, loose, but not naturally friable; it filters off water, but does not absorb and retain atmospheric gases. In Egypt, the soil is made from the annual sediment of the Nile; nothing can be finer, more friable, more porous.

Both Liebig and Boussingault have erred in laying too much stress upon one condition of fertility; you may read their works without supposing there is any other than that laid down by either. But there are two essentially distinct and essentially important principles in the cultivation of such plants as tobacco and wheat.

1st. The presence of saline matters.

2d. The presence of ammonia, &c., in the soil, either in virtue of an abundance of decaying vegetable matter, or by reason of the porosity of the soil.

This long digression will now appear not unnecessary. As a writer in a journal which passes into the hands of planters cultivating very dissimilar lands, I could not recommend a proceeding only suitable to a limestone soil; and as a scientific man, I would not allow myself to fall into the vulgar error of laying down one plan of improvement as suited to all which was in truth proper only to a specific tract. Let me be well understood: the two principles laid down, if correctly apprehended, point out the method of treatment to be pursued in every case, but I leave the question of expediency and profit to the farmer; he must decide whether, to attain the second desideratum, he will burn a stiff clay, or fallow, with clover; both will answer the end, but the former is more durable, for a good burning will show its effects for seven or more years. In sandy tracts we may improve by fallows, charcoal, &c., but can not by burning, which increases the looseness of the soil. Limestone lands must not be burnt, for obvious reasons. D. P. GARDNER, M. D.,

Lecturer on Agricultural Chemistry.

New York, June, 1844.

#### CULTURE OF THE SUGAR-CANE.—NO. II.

*Manner of Cultivation.*—In Georgia the cane was cultivated differently from what it was elsewhere. It naturally took the course of our cotton culture of the seacoast; to wit, ridges at five feet apart; a trench was opened on the top of the ridge, three inches deep, in which a double row of cane-plants were placed, cut about two feet long, and placed so as the eyes which are alternate, should be on the sides, and then covered with two inches of earth. This you may suppose in a good

season gives a continued line of stalks, not more than three inches apart, and throwing up cane five or six feet fit for the mill. I have often supposed that there was growing of vegetable matter to the acre, from 30 to 40 tons, certainly containing more nutritious matter for stock, than any other plant would give upon the same surface.

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size and form of the boiler, where it will serve ever afterward as an unerring guide.\*

*General Observations.*—Many and various have been the changes in the manufacture of sugar within a few years. Mr. Howard's discovery of evaporating syrup in vacuo, or a temperature of 70°, was a great one, and resulted in giving him more wealth than his brother, the Duke of Norfolk, probably ever possessed, but is, I believe, impracticable on plantations, and this was the opinion of Mr. Howard himself. Some modifications had taken place of this plan before the ruin of the British colonies; to what useful end I know not.

A distillery in Edinburgh introduced the concave bottom instead of the convex, in the form of his stills. The excise in the British islands was charged upon the measure of the stills, and the number of hours it was worked, supposing it would check frauds upon the revenue. The distiller modified the form of his stills, and procured great increase of quantity; the excise law was amended to meet his case; he again changed his form of stills, and ended in being able to blow off as much spirits in 30 minutes as used to require 24 hours to produce. The distiller made his fortune; the excise law was altogether changed. This form of stills was introduced into France, but the chemist complained, that so rapid was the evolution of the spirits, that the brandy was deprived of its aroma, of all flavor from the fruit. The account of this distiller's discovery, with the form of his stills, you will find in the last supplement of Vol. VI. to the Encyclopedia Britannica, worth all the rest of the work twice over. And here I will observe, that you can in any bookstore in New-York, find much better drawings than I could send you of either mills or boilers; even Mr. Ellsworth's report for '42 will give you every form of sugar mill, from the \$25 mill for domestic use, to the horizontal mill propelled by steam or water, to which alone it is adapted.

In this country, where cattle are cheap and abundant, and fuel neither good nor cheap, in the lower regions, I would recommend the vertical cattle mill. I fancy Louisiana has paid dearly for her steam mills, that have descended to her down the Mississippi, although they are the best for their cost in the world.

Wood in Louisiana is dear and bad; high pressure engines require much fuel, but little water; and the change they have made from cattle mills to steam mills has not bettered individually their condition. They have, however, recently adopted the form of the Edinburgh stills for the form of the bottom of their evaporating kettles, and there is no knowing to what extent that improvement will go. You can not evaporate the cane juice too rapidly, for the first law in making raw sugar is, that "the cane juice should be the shortest possible

time in transit;," that is, from first being boiled to being finally ladled into coolers for crystallization. As to the cane sustaining any injury from being kept 24 hours in this climate, it is all nonsense. In Jamaica it suffers no injury in 48 hours; here I have known better sugar made from cane a week after it was cut, than it would have made the first day; some of the aqueous matter has evaporated, and if, upon looking to the cane where the hatchet has separated the stalks for the mill from the roots, you find it red, why chop it off, as far up as redness extends. This is better far than any litmus paper will direct your black man what cane to give to your mill, and preserve you from acidity, which in our climate is rather a hobgoblin than a real personage.

Since the first introduction of the cane plant, my friend Mr. M'Queen, of Savannah, brought from Jamaica two varieties of cane, a blue riband cane, that is, the stem of which was beautifully striped down its whole extent blue and yellow, and another variety of cane, white and yellow. These, at the same time, had been introduced, with the green cane, by Lieut. Blight, from Otaheite. The first, the blue and yellow, was carried from Mr. M'Queen's plantation near Savannah, and from my plantation upon Sapelo Island, Georgia, to Louisiana, by Mr. M'Queen's brother, and by a Mr. Queron, who purchased some acres from me. This cane is so hardy, that I think it might be grown in warm, sandy soils, dressed with animal manures and with diluted ashes, even to New York, for the feeding of cattle, and other useful purposes; the cane for planting being preserved in dry cellars, and only taken out for planting in warm days in April. The white striped cane is the tenderest of all the species, and in our cold seasons of years past, has disappeared from among us—no loss, although a very soft cane, and easily expressed. The objection to the blue striped cane, it is very hard to grind, and really gives but little juice at best; it, however, grows higher, and is adapted to lower grounds, to moister soils, and shorter seasons, and the plants are much easier preserved for the next year. Light frost upon the cane improves the juice, and we have known the green cane upon Sapelo Island, for a few days, give juice that gave 13 by the hydrometer when three pounds of juice made a pound of sugar; no cane in Jamaica ever did more.

I will now conclude. If there are any particular points you may require information upon, they will be replied to with pleasure, if in my power.

THOMAS SPALDING.

Sapelo Island, Ga.

#### THE PHYSICIAN AN AGRICULTURIST.

Who can be a better farmer than the country doctor? With usually sufficient leisure on his hands to spend the necessary time in the cultivation or superintendence of his acres, more or less, and by profession, as he should be, a tolerable naturalist, chemist, and an observer of the physical laws, with the important advantage of daily observation of their husbandry, and continual and friendly intercourse among the farmers and gardeners of

\* I am aware that Detrone, a French chemist had introduced both instruments upon one plantation in St. Domingo; but his general plans were rejected, and these two instruments were neglected, and it is only within a few years past Detrone's plans have been published in England or America, by Porter, Philadelphia, 1831, 10 years after I was using the thermometer, and 20 years after I was using the hydrometer, which guides you as to liming the juice.



his neighborhood for many miles around him, no one has a better opportunity to excel as a farmer than himself. What but absolute want of taste, and a total absence of all observation and interest in the prolific bounties of nature, should prevent our country physicians from being our best husbandmen and stock-breeders? Of all the professions connected with rural life, commend me to that of the country doctor. I speak it with all possible respect and approbation, and for one I most humbly thank Dr. Stevens for bringing this subject before the public; and I wish now, some one would follow up the hint by a lecture on THE CLERGYMAN AN AGRICULTURIST. After this should come the SQUIRE. What a glorious trio. I can not help apostrophizing them in the language of the poet:-

Parson, doctor, and the squire !

Best adviser,  
Best prescriber,  
Best decider,

Why not best of farmers then ? PUTNAM.

#### MASSACHUSETTS FARMING.

NOTWITHSTANDING there are some things in this state to lament, there is much which calls forth our admiration, things worthy of imitation by every citizen of the United States, who wishes to make himself comfortable and easy in his circumstances by that course of conduct which has never been known to fail of success, viz., by purchasing a few acres of land, and paying for it, and then living upon what he can raise from it by his own labor, until by the fruits of his earnings he has something to spare for the labor of his less provident neighbor, who has to give labor in exchange for bread. There have been many glowing accounts given in the Agriculturist of farms renovated; of swamps drained; of rocks too large to be removed sunk so deep as to enable the husbandman to plow over and raise a crop upon them; of fine houses, barns, and out-buildings; of pleasure-gardens and green-houses; of large fields and great crops; of fine thorough bred stock; of horses, cattle, sheep, and swine. All this is very well, and those gentlemen who have retired from business, with their thousands of dollars, can not be too much applauded for the example they have with so much laudable zeal given to others, who might do as they have done, instead of spending their ten thousand dollars a year by living an idle city life, or travelling in Europe to see, hear, and find out things that are worse than useless, and never ought to be known or practised in our happy republic.

When I ask the small farmer or mechanic why he don't improve his lands, and do as Mr. C, Q., or Z. are doing with their lands, and get an equal amount of produce according to the number of acres they cultivated, the general reply is, "Oh, these are book farmers; I can't afford to take agricultural papers, and if I could, I have no time to read them. Besides, it is their money which gives them their large crops, and their roots and grain which makes their breed of cattle better than mine." When I assure them it is not so, that the rich man properly conducting his farming operations, reaps an income from his outlay, that I have seen the bal-

ance sheet of their outlays and returns, and that they show a profit on their investments equal to that of any other business—speculating in corner lots and mulberry trees to the contrary notwithstanding.

Among others I quoted *Honest John Davis*, late governor of Massachusetts, who had recently stated to me, among many other interesting things, that he had purchased fifteen acres of miserable, poor, worn-out land, a few years previously, divided it into three lots of four, five, and six acres; that through the summer last past he had pastured a yoke of large working oxen on the four-acre lot, which are now (November 12th) in high condition, fit to put into the stalls for feeding, and still the feed was luxuriant at that late season. On the five-acre lot three cows had been pastured, from which milk, cream, and butter, had been obtained for a large family, besides several pots of butter put down for winter use, or for sale. I have known in my travels a breeder of fine stock who kept 36 cows, and had to buy his butter for family use! And not over four cows out of the herd could be approached with a milk-pail—many of their bags or teats injured, and the calves which run with the cows as wild as buffaloes.\* The six-acre lot was equally productive. I understood him to say it had afforded two good crops of hay. When asked by a neighbor what he had done to that piece of land to make it produce so much, he replied, "Very little. I mowed the brush with which it was covered, and sowed it with plaster at the rate of a bushel to the acre. For the first two years very little benefit appeared from its use, since which the grass has continued to thicken and grow more luxuriant from year to year, and is now a perfect mat over the whole ground."

But I can hear Brother Jonathan saying to me, "You needn't tell me nothin' about Governor Davis's farming; he was college larn'd, and a lawyer to boot—then went to congress—and then was governor of the old Bay State—and then went to congress agin as senator; if he knows anything, 'taint nothin' but book farming. Plaster wont do land no good, I tell ye; if it makes more crop on land this year, there wont nothin' grow on it next."

To all this I can only answer, that the governor was brought up on a farm; that his father, grandfather, and great-grandfather, before him, were all farmers; and that the latter carried his plow several miles upon his back 130 years ago, when he first came into Worcester, because there was no road, and the trees, bogs, and brush, were so thick he could not draw it with oxen to the land he had purchased.

There, Brother Johnny, is a farming pedigree for you; so now turn about and make as good a manager of your land as honest John Davis, your late governor.

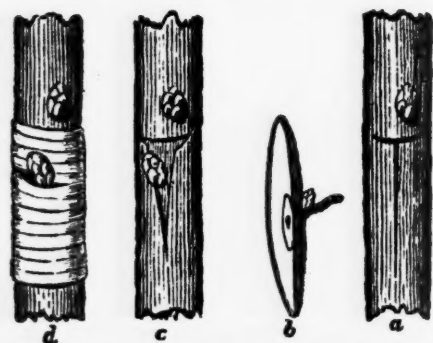
A TRAVELLER.

\* Our correspondent seems disposed to be rather sarcastic on fine stocks and farming in general, and ourselves in particular; but he shall have his say, for fear he might accuse us of partiality, and is welcome to cut and thrust as he pleases. We could defend, under certain circumstances, the practice of letting calves run with their dams, and several other things here touched upon by "A Traveller," yet would rather leave the matter to some western correspondent, where farming is necessarily done, and profitably too, on a large scale.—Ed.

## BUDDING.

I. THE season usually adopted for budding or inoculation, is in the month of August, and is sometimes called *summer-budding*; but it may be performed as soon as shoots with good eyes of the current year can be had, which may be reckoned from mid-summer to the middle of August—the criterion being the formation of buds in the axils of the leaves of the present year. The buds are known to be ready for insertion, by the shield or portion of the bark, to which they are attached, easily parting with the wood. Let the scions, from which the buds are to be procured for inoculation, be taken only from the outside branches of healthy and fruitful trees. The buds usually preferred, are those on the middle of young shoots, as they are not so liable to run to wood as those at the extremity, nor so apt to lie dormant as those at the lower end. In some cases, however, as in the walnut, the buds at the base of the annual shoots should only be used. Let the buds be collected in a cloudy day, or at an early or late hour of a fair one. When they are to be transported at a distance, they may be packed in moistened moss; or if shortly to be used, they may be put into a vessel of water; though, in general, they should be used as soon as possible after gathering. Before the buds are prepared, get the stock ready to receive them. At the part fixed on for the inoculation, which should be smooth and rather on the northerly side of the branch, make an incision with a sharp knife quite through the bark, but not into the wood, in the form of the letter T, as at *a*, fig. 44, having the cross cut and slit downward of a necessary length to admit the bud. This being done, proceed quickly and take off a bud by holding a shoot in one hand with the thickest end outward, and with the knife in the other hand, enter it about half an inch or more below the bud, cutting nearly half way into the wood of the shoot, continuing it with one clean slanting cut, about half of an inch or more above the bud, so deep as to take off part of the wood along with it, the whole to be about an inch and a half long as represented by *b*; then directly with the thumb and finger, or

BUDDING.—FIG. 44.

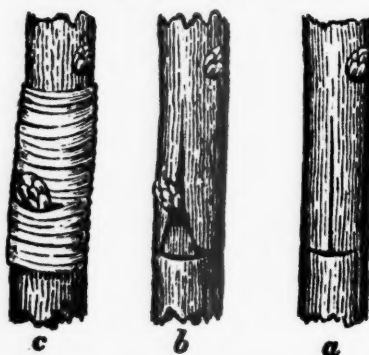


point of the knife, slip off the woody part remaining on the bud, and observe whether the eye or germ of the bud remains perfect; if not, and a little hole appears in that part, it is unfit for use, or, as the nurserymen say, "the bud has lost its root," and another must be prepared. This being done, place the back part of the bud or shield between

your lips, and with the flat haft of the knife or a piece of ivory or bone formed for the purpose, separate the bark of the stalk *a* for the admission of the bud, which slip down close between the wood and bark to the bottom of the split *c*. Then cut off the top part of the shield containing the bud even with the horizontal or cross-cut first made, in order to let it completely into its place, and to join exactly the upper edge of the shield with the transverse cut, in order that the descending sap may immediately enter the back of the shield, and deposite granulated matter between it and the wood, so as to effect a living union. The parts are next to be immediately bound round with a water-proof bass ligament, or some substitute, as in *d*, beginning a little below the bottom of the perpendicular slit, proceeding upward closely round every part, except just over the eye of the bud, and continue it a little above the horizontal cut, sufficiently tight to keep the whole secure, and to exclude the air and moisture without the use of grafting-wax or clay. In a fortnight, at farthest, after performing the operation, such buds as have united may be known by their fresh appearance, and in three weeks, all those which have succeeded, must have their ligatures loosened, and in a week or two more, entirely removed. In the spring following, the stocks should be headed down, leaving one or two shoots above the inserted buds.

2. Another sure and expeditious mode of inoculation, is that known by the name of *spring-budding*, by which the bark of the stock, as early in the season as it will separate from the wood, is cut like the letter T inverted, (thus **⌞**), as shown

BUDDING.—FIG. 45.



by *a*, fig. 45; whereas, in summer-budding, it forms a T in its erect position. The horizontal edges of this cut in the stock, and of the shield-bark containing the bud, should be brought into the most perfect contact as denoted by *b*; because the union of the bark, in spring, takes place by means of the ascent of the sap, whereas, in summer-budding, it is supposed to be caused by its descent. The parts should then be immediately bound with a bass ligature as shown by *c*, without applying either grafting-wax or clay. The buds may be inserted either in a healthful branch, or in a stock near the ground. In general, two buds are sufficient for one stock; and these should be of the same variety, as two sorts seldom grow with equal vigor. The bass ligature which confines the bud, may be removed, if the season be moist, in a month after budding; but if it be hot and dry, not for six



weeks, at least. As soon as the inserted buds show signs of vegetation, the stock or branch containing them should be pruned down, so as to leave one or two buds or shoots above. If the stock is allowed to have a leading shoot above the inserted buds, and this shoot should not be shortened, the inoculation will not show many signs of vegetation for several weeks.

3. *Scallop-Budding* consists in cutting a thin section of bark and wood, of almost any shape, from the side of the stock or branch to be budded, and in preparing a similar section containing a bud which must not be separated from the wood. The latter section or shield is then laid on the cor-

responding scallop in the stock, with its upper or lower end exactly in contact with the bark of the stock, as in spring and summer-budding, with one of its sides, at least in contact, as in whip-grafting. After this, the ligature is applied in the usual way, and the future treatment as above, according to the season. The advantage of this mode over others is, that it can be performed at seasons when the wood and bark do not freely separate; but the operation requires more time, and the buds are less liable to take.

D. JAY BROWNE.

*Read before the Farmers' Club at the American Institute, N. Y., June 18th, 1844.*

NORMAN HORSE DILIGENCE.—FIG. 46.



IMPORTED BY AND THE PROPERTY OF EDWARD HARRIS, ESQ., MORRISTOWN, N. J.

For the above cut of Diligence, we are indebted to Mr. C. N. Bement, one of the editors of the Central New York Farmer, who pronounces it a spirited and faithful likeness to the original. We extract from the Farmer, Mr. Harris' account of this breed, and his importation.

"The object of importing the Norman horse had been resting on my mind from the year 1831, when I passed through France for the first time, and witnessed with astonishment the perfect ease with which these *Double Ponies* as they are sometimes called in France, trotted along at the rate of six and seven miles an hour before the incredible loads piled upon and stowed away in the diligences, and then when they stopped to change after a stage of from ten to fifteen miles,—without the slightest symptom of fatigue—to see the hardy rascals commence biting and kicking each other (they are

never castrated) amid the *sacres* and beatings of the conductors, postillions, and stable-boys. These scenes repeated at every stage, could not fail to attract the lively attention of any one having the slightest penchant for that noble animal the horse. From that time I never abandoned the idea of transplanting them to my native soil. I saw in them the veritable progenitor of the Canada horse on a larger scale. I saw in them what I am not aware of having seen before or since in any distinct race of horses, I mean the property of *quick draught before a heavy load*. I also saw or fancied I saw in them the means of speedily raising the character of our fine-spun breed of horses, in this valuable property, without in the least impairing their courage and actions and at the same time impart to them a more docile spirit and a perseverance that never flags at the *dead-pull*.

That these properties, if possessed by the breed, must be imparted to their progeny in a far greater degree than would be the case from any horse selected as a stallion from our own mixed stock, even if he possessed them all in a superior degree, must be evident to any one acquainted with the true principles of breeding—from the fact that *they have been kept a distinct breed for ages*. To you I need not enlarge on this important fact. I could add a great deal more about the fine condition in which these diligence horses are always kept in spite of hard driving and worse grooming—about the great age they sometimes attain; the rarity of spavins, windgalls, or other blemishes of the limbs, but you might think I was coloring too highly, and besides I should never get to the main part of the story—the importation.

“On my next visit to France, in the winter of 1838 and '9, I set about making the necessary investigations in regard to purchasing, shipping, &c., and sometime in the month of April I had collected at Havre two stallions and two mares; one of the stallions on examination did not please me and I got rid of him at a sacrifice. The remaining stallion was a fine animal of two years old, as I had been informed by my agent that stallions over that age could not be exported. It appeared afterward that the law to that effect had recently been repealed, an error which I had reason to regret, as the stallion died on the passage, from a cold which fell on his lungs, owing probably to his having been too tenderly raised. When I got my horses on board the ship, I could not procure a suitable person to go with them and was obliged to hire one of the Swiss passengers going out in the vessel who said he had been accustomed to horses. Not feeling satisfied with this arrangement, I determined on the eve of the vessels sailing to go out with them myself. The horses all took cold from a sudden change in the temperature, and required much attention, the stallion dying before the end of the voyage which lasted thirty-six days. The mares remained a few days in New York to recover from the effects of the voyage, but as I did not consider them in a fit condition to travel to my farm, I sent them on by the railroad. The next day I had the mortification to learn that one of them had her leg broken by the giving way of the bottom of the car. So that after all my trouble and expense I had but one mare left. Determined not to give the matter up—in three weeks from my arrival in New York I was on my way back in the Great Western to look up another cargo. I arrived in good time for the Fair of Guibray, one of the principal fairs in Normandy, and purchased four more, two stallions and two mares. This time I was not obliged to go out with them, as I procured an excellent fellow to take charge of them. The horses as before were all sick, but by strict attention to the directions he had received from the veterinary surgeon and his great care of them, he carried them safely through. The loss of one of the mares, which died of apoplexy a year ago, is the only additional misfortune I have to record. Everything goes on as well as I could wish. Diligence pays his way handsomely and his oldest colts which are a year past, are of excellent

promise, and I feel no regret in the retrospect of the difficulties encountered nor of the money expended. If I should receive no further reward, the flattering notice of my horse Diligence by your society, and the uncommon patronage he has received from my neighbors the three past seasons, will always be remembered by me with the greatest satisfaction.”

All writers whom we have read on the subject of the Norman horse, agree as to his merits; and there can be no doubt that it is one of the hardest and most useful breeds to be found. Some of their Canadian descendants, however, are not so *small* as generally represented. We have often examined with much satisfaction, a grey Canadian stallion now standing on Long Island, 15½ hands (62 inches) high, weighing about 1200 lbs., that can trot a mile in 3½ minutes, walk 5 miles easily in an hour, and is of great power at a dead pull. The portrait of Diligence above would be a very good one of him, save that his grey is not so handsomely mottled, and he has much less hair about the legs. We hope that Mr. Harris' horse will be well patronised, for he deserves it; at the same time, we think there is now and then a Canadian, and what is commonly called the Poney Dutch breed which are highly valuable, and should be sought out and extensively used as improvers of the hardy, enduring horse of all work.

#### KEEPING FOWLS IN WINTER.

I HAVE had a large number of eggs the past winter, from following in part the advice I have seen in your and other papers. I have kept my fowls in a warm place, have given them as much grain as they wanted, always keeping it where they could get it when they wished; having also a box containing gravel, lime, and ashes, which they could pick at or roll in, and furnishing them with graves or scraps, which is a substance obtained in large quantities from the melting association of this city. Of this substance they are extremely fond, and it made them lay prodigiously. Animal food appears to be so essential to fowls while laying that I shall never pretend hereafter to keep fowls in the winter without it.

HENRY A. FIELD.

New York, June, 1844.

#### EGGS HATCHING AFTER TRANSPORTATION.

THERE is a general opinion that eggs carried any distance, especially over water, will not hatch. The experience of a neighbor of mine this spring, proves it to be erroneous, if the eggs are fresh. In the beginning of April he brought from New Jersey, fourteen hen's eggs, packed in a basket with oats. He came up the Hudson river in a steamboat to Albany, and thence by railroad to this place. A week after his return, he put them under a hen, and each egg produced a chicken, all but one of which are now living.

CHARLES H. TOMLINSON.

Schenectady, 6th June, 1844.



## ORGANIC IMPROVEMENT OF DOMESTIC ANIMALS.

SHEEP and other animals were subdued and domesticated, long before their biped captors and masters were able to keep a record of their doings for the benefit of their posterity. Hence we know little of the original stock from which our domestic animals have descended, and less of the early treatment they received, at the hands of our own progenitors. Nor is this information important. It concerns us mainly to understand how a change of food, temperature, and of all surrounding circumstances, will either *improve* or *deteriorate* the organic structure and natural functions, which transform for the practical farmer his cultivated plants, their seeds and roots, into wool, beef, pork, milk, lard, butter, and cheese. That there is a wide difference in the results obtained, by the operation of this living machinery in different animals, no observing man can doubt. Of two cows of equal weight, and consuming equal quantities of food precisely alike, one will elaborate for its owner 18 quarts of milk in 24 hours, while the other can form but 9 quarts in the same length of time. A pig, whose organization is apparently nearly perfect, will elaborate from a given amount of raw material, twice as much flesh and fat, as another whose respiratory and assimilating machinery are very defective. Experience and science alike demonstrate the truth of the remark that it takes 50 per cent. more food to produce a given amount of muscular strength and power of locomotion in one horse or ox, than is required in another. Animals that had a common parentage ten generations back, now possess not only widely different forms, but organic and constitutional peculiarities, of great importance to those that may become rich or poor, according to the well or ill management of their herds and flocks. Eminent success alone attends *skill* in the breeding and keeping of domestic animals. This valuable skill is acquired by close observation, and studying the uniform laws of nature that govern the growth, maturity, and decay of organic beings. The most important and material changes in the development of the organs of animals, and in the function of each organ, are made during the period that elapses from the first formation of the embryo, to the maturity of each living complex structure.

"As the twig is bent the tree's inclined."

The plasticity of young animals and plants, and the extreme changes that may be wrought in their forms and habits are truly wonderful. The human brain itself can be moulded in infancy into any shape to suit the whim or taste of a "Flat-Head" or a "Round-Head" Indian. Nor is there a single mental or physical function in the human system, that may not be either *improved* or *impaired* by the good or bad influences which may be brought to bear upon it. The science of physiology is a noble science. It enables cultivated reason to trace results—the products of animal life, such as flesh, fat, milk, and wool—back to their known causes and elements.

I can hardly expect to give you even an outline of the organization and workings of this complex

vital machinery. There are, however, a few cardinal points in this matter, which I will endeavor to make clear and intelligible. One is, that no animal or plant can possibly transmute one simple elementary substance into another. If a hen be fed on food that is quite destitute of lime, the organs of her system can not form an egg-shell, so if a child, calf, or colt, be kept on food that lacks phosphate of lime, its bones will be soft and cartilaginous. No other minerals can be changed into lime or phosphorus.

Animal fat is a compound made up of carbon, hydrogen, and oxygen; and no other simple elements can possibly make it. Lean meat and wool contain the same elements, with the addition of nitrogen, sulphur, and several other earthy ingredients in minute quantities.

Knowing that no animal can create anew one particle of matter, and that each compound product has its peculiar constituent elements; knowing also how much of those elements is contained in any article of food, we can judge of its fitness or unfitness to produce either bone, muscle, fat, milk, wool, or any other animal product. In other words, we can wisely adapt our *means* to the *ends* we have in view.

Suppose a farmer had 100 hens in his poultry-yard, and he desired them to lay as many and perfect eggs as possible. Would it be an unreasonable prescription to say to him that "you must feed them liberally on food which contains not only lime, but all the elements of the contents of an egg-shell in a concentrated form? Deny not the raw material, if you expect the bird to elaborate for your table, or for market, a large product of this article of human food."

Is it anything extraordinary that a race of cows, whose mothers for many generations have had their milk-forming organs largely developed by being fed on food well adapted to that end, should secrete far more milk from a given amount of raw material, than a race of wild cows, whose lacteal glands had been denied all the advantages that result from quietude, rich pasture, and regular dry milking?

A sheep consumes several pounds of food daily. Of this, at least eight ounces are composed of the constituents of wool. Now if the capillary organs of this animal transform only two per cent. of these elements into wool in 24 hours, then in 100 days the sheep will grow one pound of this valuable product. This will give a fleece, which will weigh  $3\frac{65}{100}$  lbs. in 365 days. Is it not practicable so to improve the vital action of the wool-forming machinery of our twenty millions of sheep in this country, that this machinery shall transform *four* instead of *two* per cent. of the raw material of wool into that substance? That this organic machinery is perfect no one pretends; or that it has already been greatly improved, is not denied. The manufacture of wool out of its constituent elements, is a branch of science of great importance to the farmers of the United States. They possess an inexhaustible quantity of the raw material of wool, and enjoy every advantage for its profitable production. To develop the capillary organs of the sheep, the animal should have a warm, or rather

a comfortable, well-ventilated apartment in winter—should be kept quiet throughout the year; that is, it should not be compelled to travel too much to find its food. It should have the organs that form this animal product *at all times* stimulated to a preternatural action, by having the arteries that convey nourishment to these organs, preternaturally loaded with the elements of wool. A plant grows best in a soil rich in the elements of such plant. So too an animal, and especially a young animal, elaborates the most flesh and fat when its blood-vessels are best supplied with the elements of those products.

Clover, oats, turneps, beans, peas, and other leguminous plants, contain more of the constituents of wool than timothy, herds-grass, potatoes, and corn. All animals should be fed regularly, and particular attention should be paid to their health and comfort. It is, perhaps, needless to say, that every improvement in the practical workings of all this living machinery can be transferred from parent to offspring by judicious breeding.

The action of the respiratory organs in all domestic animals has a material influence upon the formation of fat, muscle, milk, and wool. The lungs never cease night nor day to expel more or less of the elements of animal food through the windpipe into the air, in the form of carbonic acid and vapor. The organization of some animals is so defective that they consume in this way a much larger quantity of the constituents of flesh, fat, milk, and wool, than is necessary or profitable. The more an animal exercises, the faster he breathes, and other things being equal, the poorer he becomes; because, instead of nourishing and supplying the waste in the system, the elements of the food escape in a larger ratio from the assimilating organs. The food of animals consists essentially of carbon, hydrogen, oxygen, and nitrogen. The first escapes through the lungs, the second and third escape in vapor, perspiration and urine, and the last (nitrogen) also escapes by the kidneys. Hence, a cow when driven twelve miles a day, never gives as much milk as she does when consuming the same amount of food and remaining quiet in a pasture or stall. It is an easy matter to enlarge or diminish the size of the blood-vessels that convey the elements of milk to the lacteal gland of the cow, or the vessels that convey the elements of wool to the capillary organs of the sheep. It is not difficult to increase both the size and strength of the muscles of a colt, or of a young bullock. Like the enlargement of the muscles in the arm of a blacksmith, *judicious exercise* must come to the aid of judicious keep.

D. LEE.

Albany, April 30, 1844.

#### SOUTHERN PRODUCTS.

I HAVE been a subscriber to your periodical from its commencement, and a careful reader of the various articles which have appeared in its pages, and with nothing have I been more pleased than with those communications which from time to time have been inserted, recommending to the attention of our farmers and planters new and val-

uable objects of cultivation. These communications are worthy of the most profound consideration of every cultivator of the soil. The articles on madder and indigo particularly commend themselves to attention. In a country so widely extended as ours, stretching as it does from the Gulf of the St. Lawrence *almost* to the tropics; embracing, too, every variety of climate, there can surely be found a climate and a soil adapted to almost every plant useful by its employment in the arts, or to the sustenance or luxury of man.

Every year we import largely the agricultural productions of other countries, which we might just as well, and indeed, *better* raise at home. We purchase annually large quantities of olives and olive-oil from France and Italy, and figs from the Levant, and we buy many millions of pounds of tea from China. There are numerous other articles, too, of which the same remarks might be made with truth, but which do not at this time occur to my mind. The production of these articles at home is to be desired and encouraged by every well-wisher of his country; for I think it must be conceded by every intelligent man acquainted with the agricultural interest throughout the United States, that our farmers and planters have confined their attention to too few objects of cultivation. At the south, particularly, has this been the case. Cotton, sugar, and rice, have been the staple articles of the southern planters, and to the production of these have they directed their whole energies. The consequence of this has been an *over-production*; and when we consider the immense section adapted more particularly to the cultivation of cotton, it would seem that the danger of over-production in that article more especially, is yearly increasing. The same is true of the western country. The facility with which wheat and every other species of grain adapted to the climate is raised, is so great, that there has been, still is, and under present circumstances there *must* be, a production far exceeding the demand. Now the south and west are essentially agricultural regions, and for a long time must continue so; and to me it is very doubtful whether they ever become extensively manufacturing countries. At least, it will be conceded that a large manufacturing interest will not arise there, until the population becomes much more dense than it is at present. This state of things will surely increase the danger of over-production, which at present exists, and which is the true cause in my opinion of the low prices which we have had for a considerable time, of almost every article of agricultural produce; and these low prices must I fear continue, and indeed must fall still lower; for if we go on producing at the rate we have done and are now doing, we shall not only be unable to consume our productions at home, but we shall also find it more than difficult to obtain any market abroad sufficient to absorb our surplus. To many of your readers these assertions of mine may seem not only bold but incredible, and I am fully aware that a general rise in produce has taken place during the past year. But I am satisfied of the truth and soberness of my ideas: for, as you well know, I have travelled extensively, and I have examined most



of this country pretty thoroughly, and I think your own experience gathered from long and distant travel, will bear me out in what I assert. The results of the crops throughout the country for the next five or six years will I am confident, sustain my position.

I assume, then, that an over-production *does* at present exist, and will continue in an *increasing* ratio. Is there then any remedy, and if so, what is it? It seems to me that the true and sufficient remedy is to be found in extending our articles of cultivation, and extending them too, until we raise in this country everything which our climate and our soil will permit us to raise at a reasonable profit; and it becomes the duty of every good citizen to lend his aid in accomplishing this very desirable object. But for this purpose individual effort is not sufficient. The people in their collective capacity should assist. The legislatures of the different states should do something and do it carefully, energetically, and thoroughly. If the legislature of the nation could be induced to extend its powerful aid, it would be no more than a duty it owes to the people. But I fear that it is too much to expect from that degenerate body. At any rate, the *state* legislatures might and could be induced to act, and their mode of action should be this. Take for instance the olive-tree, the indigo, and tea-plants. I have no doubt that there are very extensive regions of the south exceedingly well adapted to their successful and profitable cultivation. The olive has been grown in Alabama; the indigo plant was at one time extensively cultivated in various districts of the South; and I am credibly informed that the tea-plant has been successfully cultivated to a small extent in two instances, the one in North Carolina, and the other on an island on the coast of Georgia. Nor is there any reason why either and all of these should not become great staples at the south; for the climate is well suited to their production, and if the cultivation should become extensive and profitable, it would not only relieve the south of the pressure of that great evil, an over crop of cotton, by dividing the direction of the energies of the planter, but would also prove a source of increased and increasing wealth to that region.

Their legislatures then should act in this way. Intelligent and capable agents should be sent out to obtain information on the subject of the cultivation and preparation for market of these articles, (if such information can not be obtained at home, and in the case of the tea-plant it can not,) and on the return of these agents, the information they bring with them, should be extensively circulated among the people; and the plants themselves should be widely distributed, and if necessary, experiments should be conducted at the public expense, and above all, liberal bounties should be offered for the encouragement of the cultivation. In this way, the cultivation of indigo, olives, and tea, would in a few years obtain a firm foothold at the south, and her people would not only find themselves supplying our own country, but exporting to other countries. By such encouragement the silk culture has grown up and already taken firm root, and will, I may venture to predict, in a few

years produce results very different from those anticipated shortly after

"The days when we went mulberrying,  
A long time ago."

The present, moreover, is a most favorable time to take active measures for commencing the cultivation of the tea-plant especially, for our own country is just entering on better times, and we are about forming new and interesting relations with the Chinese. But these remarks do not apply merely to the cultivation of the olive-tree, and the indigo and tea-plants, worthy as they are of the attention of the south. Numerous other articles of agricultural production might be pointed out, and will doubtless occur to yourself and your readers, to which my observations might be with equal truth applied. Let some or all of your numerous intelligent subscribers at the south investigate this subject with the attention it so well deserves, and strongly petition their legislatures to consider and act upon it; and the result, if the matter be persisted in, can hardly fail to be most important and beneficial to our southern agricultural brethren.

I have not by any means exhausted this subject, either in its bearing on the south, the west, or even our own more rugged and inclement north; and should you permit me again to occupy a space in your columns, I shall endeavor to point out some other and equally important considerations as connected with this most interesting topic. In concluding, I would fain hope that you and your numerous intelligent correspondents, will go on pointing out to us other new and valuable objects of cultivation, adapted to the different sections of our wide-spread but common country, and I trust that you will arouse the attention of the agricultural public in every way in your power, and by so doing you will oblige and interest more than one

NORTHERN FARMER.

#### PIGS SUCKING A COW.

In an Illinois journal for the present month, I see a notice of a cow, when lying down, deprived of her milk by a porker. It reminds me of a matter occurring under my own observation, which I will mention, and when you see Col. Bomford of the Ordnance Department, mention it to him, as from the short acquaintance I had the gratification to form with him in 1840, when on a visit to his house with my much-lamented uncle, the late Hon. Henry Baldwin, I was happy to see, and make improvement of his knowledge of the habits and instincts, sports and pastimes, of domestic animals.

For several weeks in succession, our dairy-maid complained that our best cow was deprived of her milk by some foul means. That when she came from pasture she had just been milked, and that the udder was still wet. I could accuse no one but a tenant who lived near the lane through which they passed, and which was generally open from the cow-yard to the pasture. The accusation was denied with evident surprise. At length I determined to watch the cattle on their evening walk from their pasture, and you may judge my surprise, when I observed that on the cow mooing as if in search of her calf, about fifty yards distant

from the yard, four shoats, three months old, ran squealing down to meet her at their utmost speed. The cow remained in the rear of the others, and quietly and patiently stood still till every drop of milk was extracted from her udder by the pigs; they *standing* the while erect on their hind legs, with each a teat in its mouth. The place for the operation was most favorably selected, as small apple-trees interposed between the parties and the house, which stands upon an elevation. The extraordinary thrift of my pigs, which all along was so discernible, was now accounted for; and I learned a lesson which shall never be forgotten through life, viz: never to make accusation on mere circumstantial evidence unless strongly corroborated.

I shut my pigs in a pen immediately. The next morning the cow appeared as uneasy without their visit as if she had lost a calf, and the pigs squealed in answer as if they had been deprived at the time of their mother *sus*.

Now, as Professor Silliman thought his story worth publishing, I have concluded to write mine to you.

**PRESERVING A GOOSE-EGG UNDER GROUND.**—I was walking this morning behind my plowman, when his plow turned up from the soil, at the depth of about 8 inches, a goose-egg of very rusty complexion. Almost taking it for granted that it was spoiled, I opened very carefully a small space in one end, with the point of my knife. As no explosion ensued, I made the opening still larger, and to my surprise found the egg perfectly sweet, and its different parts perfect, with the exception that it contained a *very small embryo* completely developed. The white of the egg was as clear and sweet as if newly laid. There was no possible perceptible difference, the yolk was of the natural color and entirely sweet to the smell. The egg must have been in the position from which it was taken, at least twelve months. There can be no mistake in the matter. The ground where it was deposited was a deep, mellow, alluvial loam. Oats had been sowed and harvested last year, and the ground seeded to clover, which, from some cause not having taken well, I am plowing the same land for corn. The egg must have been plowed under last spring. Something perhaps may be learned from this; at least of interest to the good lady of the farm-house, if not to others.

JOS. C. G. KENNEDY.

Hillside, near Meadville, Pa., 30th April, 1844.

#### MINERAL PHOSPHATE OF LIME.

WHEN the great value of phosphate of lime for agricultural purposes is generally understood, as it must already be by intelligent farmers, it is a matter of surprise that no more use is made of it, and that it has been subjected to so few experiments, with reference to its application to this object. This mineral is identical with the chief ingredient of bone-dust, and may with equal profit be substituted for that as a fertilizer.

Bone-dust, after deducting the animal matter which it contains in its natural state, which is about 33 per cent. consisting mostly of gelatine, with a small addition of cartilage and fatty matter,

contains about 86 per cent. of phosphate of lime; the remainder being composed principally of carbonate of lime, with a small amount of phosphate of magnesia, soda, &c. But as most of the animal portion of bones is usually extracted before they are crushed and ground for the farmer's use, and frequently are reduced to this state by calcination, by which all this organic matter is effectually expelled, we have the earth of bones, differing immaterially for the economical purposes of agriculture, from pure mineral phosphate of lime. This exists in nature, under a variety of forms.

*Phosphorite* is found in extensive beds, in a massive state, generally of a yellowish, or grayish white color. *Apatite* is another variety, of considerable diversity of color, abounding in certain regions, and particularly abundant in Estramadura in Spain, whence it has been exported to Ireland, to a considerable extent, for agricultural purposes, but with what results we are yet ignorant. Its colors are whitish, or faintly red, blue, and green. Another variety, found in very limited quantities, from its lustre and transparency, has been sometimes ranked as a gem. Its beautiful green color has secured for it the name of *asparagus-stone*. It is identical in composition with *Apatite*. *Osseous breccia* frequently occur, and contain a large proportion of phosphate of lime.

*Fossil guano* has been recently found in England, in a number of places, and contains a large amount of phosphate of lime. It has already been made subservient to the interests of agriculture. *Coprolites* and other organic matters, the remains of bones, teeth, &c., the exuviae of fish, birds, and animals of preceding ages, indefinitely remote, exist with more or less mixture, in many places, either as marl or solid limestone. It is the presence of these organic remains, giving to them a considerable proportion of phosphate of lime, which renders many of the marls of our own country so valuable to the farmer.

In referring to the five annual Geological Reports made under the authority of the state of New York, I find only a brief notice of this mineral in two of them. The first is made by Dr. Emmons in the report of 1838, in which it is described under the head of *Eupyrchrorite*, from its giving off a beautiful phosphorescent light, when subjected to a strong heat. "Its color is a pale malachite green, passing into a greenish-white and sometimes brownish. Structure indistinctly fibrous in the thin, mammilated layers. Colors of the several layers various. Dull and opaque. Hardness, 4; specific gravity 3.06." The above specimen was found near the landing at Crown Point, but in what quantity is not mentioned.

Dr. Beck refers to the above specimen in the report of 1840, under the head of "*Fibrous phosphate of lime*," and gives an analysis of its composition. He found it contained of

Phosphate of lime.....	92.85
Oxide of iron with a little alumina.....	5.20
Silica.....	.50
Moisture (water ?).....	1.25
Fluoric acid.....	a trace.

He considers the oxide of iron, silica, and alumina, as accidental ingredients. He also found speci-



mens in Orange county, and at Rossie, St. Lawrence county.

It is apparent that the gentlemen who made these reports were not aware of the great value of this mineral for agricultural purposes, as no reference is made to it in this view. The geological discoveries hitherto made in this state, although of incalculable value, and as great as could have been anticipated from the limited time and means devoted to them, are yet very incomplete; and it can not be doubted that subsequent investigations will develop this important mineral in numerous places, and in great abundance.

In England and elsewhere, it is found associated with carbonate of lime, frequently as a distinct layer, as it is seen in the lime formation near Clifton, constituting a strata of 6 to 12 inches in thickness, and extending for miles along the banks of the Severn. Beds of marl at Lyme Regis, were found to yield over 20 per cent. of phosphate of lime.

Thus it will be seen that our farmers must go deeper than the surface, or even subsoil, for the maximum of nutrition for their crops, and their ultimate profits; and they must use other and additional instruments to effect this, besides their spades and plows, and the hand work of their laborers. They must bring the lights of science, the genius and intelligence of geology and chemistry, to their aid, if they would reap all the rewards that should crown their honest toil. In these beds of mineral phosphate of lime are laid up treasures of an indefinite amount, securely hoarded in a form, which effectually protects them from all destruction and waste, till science unlocks them for the use of succeeding generations.

R. L. ALLEN.

Buffalo, March 25, 1844.

#### PAULAR MERINOS.—No. V.

I CLOSED my last communication, by a choice extract from Vol. 2d of the Transactions of the New York State Agricultural Society, for 1842, descriptive of the *counterfeit* Paular sheep of Messrs. Jewett, Hull, and others. "Large and coarse, good for mutton, but *inferior* for wool." "Not at all similar to the old Paulars that he had formerly seen, from the flock of Consul Jarvis."

This comprehensive and just description, covers the whole ground. It is truly "*multum in parvo*." And will you please bear in mind that it was from the pen of one who resides in their immediate vicinity, and who *knows* about them; one too, whose authority in regard to sheep and wool, your readers will not be disposed to question.

It would seem then, that the Vermont sheep advertised and puffed by Messrs. Jewett, Avery, Randall, & Company, under the false or *fancy* name of Paular Merino, are *not like* the *original* and *genuine* sort of Spanish Paular Merinos, nor even at all similar to them; so they can hardly with *propriety* be termed *counterfeit*, which would be a misnomer; but "*spurious* Paular" would seem to be the *right* name for them. I may probably at some time hereafter take occasion to recur to this part of the subject. For the present, I take leave of it.

In your last October number, Mr. Jewett commences a laudation of his sheep, by saying (in connexion with some modest hints of the extent of his own experience,) that, be they "Paulars, old Merinos, or anything, it matters not" to him. Aye, but there's the rub, my good sir. Though it "matters not" to *him*, yet it does (as things now stand,) *matter much*, to the *public*. Indeed there lies the whole *gist* of the existing controversy between him and myself. It is nearly all there was between us, to start with; and it is not by any means, to be so easily got over; at all events not unless Mr. Jewett is willing to *acknowledge* that it is, as I was always well satisfied that it was, and would prove to be; that neither he himself, nor any one else, really knows much, if anything, about the *blood* and *breeding*, of his sheep, and that consequently, no accurate and well-attested pedigrees of them, at all entitled to reliance, can by any possibility be produced. This, I have no sort of doubt, is the real state of the case.

How indeed, can it be otherwise? We do not hear that *his* father "purchased pure Spanish Merinos, direct from the importer," and that they have been bred ever since, by his family and himself, "without adulteration or mixture with any other sort." Nothing at all of this. No such thing is claimed. How then came Mr. J. in possession of the sheep composing his flock? Why, no doubt fairly and honorably, by *purchase*; which certainly gives him a good and indisputable title to them. No one disputes it. And very likely they may be *good* sheep. Doubtless some, and perhaps many, among them, *are* so. It is altogether probable that they are; and they *should* be so, for this reason alone, if for no other, (and I really do not suppose there exists any other,) that Mr. Jewett has, within a few years past, as I understand, been in the way of *picking up* good sheep from time to time, as opportunity offered, by purchase from his neighbors and other Vermont farmers and wool-growers, so that his flock, but recently made up somewhat in that way, would be likely to present a favorable exhibition of the various grade or mixed, mongrel flocks now existing among the farmers in that part of Vermont: of course better than an *average*, because Mr. Jewett would naturally "pick up" the best sheep he could buy, and (so far as in his power,) from such flocks as might appear to be most desirable, though on the other hand it is well known that the owners of choice flocks will rarely consent to sell, or let buyers *pick out*, their *best* sheep. This, I presume to be a fair view of the matter. It certainly is so, if I have been correctly informed, by those who ought to know. Suppose it to be so, it would naturally seem likely to put Mr. Jewett, indeed in possession of a "*variety*," in one sense of the word; i. e. a considerable *diversity* of *blood*. But it would probably leave something of a hiatus in the *pedigrees*, about which some awkward questions might arise, in case one was at all particular about *details*, or solicitous to see or know something about each and every link in the chain, so far at least as to know for a certainty that such links had actually existed, of any distinct and pure sort of blood. The question, (quite an interesting and important one too,) then arises, and re-

mains to be solved; *how* and *when* did those various and mongrel sheep, get made up and melted down into Paulars, *pure Paulars*? How were they transformed? By what process, by what alchemy or magic, was it accomplished? Were they dyed in the wool? The question is, *how* was it done? *When* were they baptized into the great Paular family? I wait for a reply and full explanation in detail from Mr. Jewett himself, as he doubtless knows about it as well or better than any one else. I can not however but think, that it would be a "curious" and interesting chapter, could we get it. It is, I well know, very easy for Mr. J. to say (as he does,) that "a part of his sheep are a branch from a certain flock of Simon Pures, and the rest are from celebrated breeders, who represent them as pure descendants of the Paular, or old fashioned Merino." But in truth it will hardly do for Mr. Jewett to attempt to get off in this easy way. It is all very unsatisfactory. We want something more definite and tangible, something that is more reliable. What if it should turn out, that his "celebrated breeders," from whom he purchased his "pick ups," themselves got *theirs* in the same way, as doubtless they really did, and without knowing much if anything, about their blood or breeding; and *they* in turn of others, (as is more than likely,) of the same class of "celebrated breeders," who were equally careless and ignorant of the blood and breeding of their sheep, or at least, the best of them, neglectful of requiring and preserving good evidence as to purity of the blood. How would the matter of Jewett, Avery, and Randall's Vermont Paulars then stand! In such a case to talk of purity of blood, or of having any particular or distinct *breed* of sheep, will justly seem to your readers, very funny, as it is in fact, very ridiculous.

All this, it is true, might do very well, for a purchaser whose object was simply to stock a farm, with good, strong and healthy sheep, at a fair moderate price, and who would not be expected to pay much for *blood*, nor to be over-critical about the exact grade or degree of Merino blood, whether more or less pure. But when it comes to raising *rams* and selling them at good prices, for the use of the public, and talking and vamping about them, as being pure-bred Merinos, "*pure Paulars*," and all that sort of thing, it becomes indeed quite another matter. For in the selection and purchase of male animals for the use and improvement of our choice and valuable flocks and herds, it becomes a matter of great consequence to get none but such as are *pure bred*, such as are known to possess good pedigrees, beyond any reasonable doubt. The great importance of this, is every day getting to be better understood and appreciated.

I would ask, *who* were Mr. Jewett's "celebrated breeders," those who laid the foundation of his *pure Paular* flock? We wool-growers, want their names and residences. Perhaps some of them may be known to us. I do not understand that all the sheep which he has picked up, were considered or known to be Paulars, nor even *called* such, *before* he bought them. But we have heard that there is much in "the magic of a name," and doubtless Mr. Jewett thinks so.

I do not complain at all of the means by which Mr. Jewett got together his flock of sheep. It was not a bad method. Indeed, to buy the best he could find around him, and to pick up a few occasionally, here and there, was perhaps about the *best* way he could have taken; but his error lay in afterwards claiming them to be *pure bred* Merino sheep, and thrusting them, as such, before the public, *under a popular specific name which did not belong to them*. It was this, that gave such an unpleasant awkwardness to his case, and of which, it can hardly by any ingenuity be divested.

Mr. Jewett says, that I "appear to arrive at my conclusions, from a description and picture of his ram, which appeared in the Albany Cultivator for August 1842." He then goes on to criticise with some severity, the portrait of the ram, and denies its truth and accuracy in some essential particulars. This is perhaps all very well; but how does it tally with what he himself said of the *same* portrait *at the time it appeared* in the Cultivator! He then said, without any reservation whatever, that it was "a very true picture"! Besides, you know we had in the Albany Cultivator for October 1842, at page 162, the certificate of the Reverend Royal A. Avery setting forth that *he was certain* that the portrait of Jewett's buck in the August number of the Cultivator, was, (to quote his words,) "a very perfect likeness"! This, however, is a small matter.

But it seems that Mr. Jewett now wishes to *shift* my observation, and that of the public, on to another ram, and a very different one from the former. In your October number, he says, "I would refer Mr. Examiner to the 2d Vol. of the N. Y. State Transactions of 1842, for a correct likeness of one of my stock bucks." Therefore as to *this* likeness, I presume there can be no mistake. I perceive it has also now just appeared in the Albany Cultivator for the present month. It is certainly a brave looking picture. The head and horns of this one are far better than the other, and more indicative of Merino blood, though even this ram, as pictured, has not the Merino form of *carcass* and carries but little, if any, resemblance to the peculiarities of the genuine *Paular* family. He is however, undoubtedly, a much better buck than the *other* one, of which we have spoken, and I should judge must be better bred. Doubtless he has *better blood*, and *more* of the *pure Merino* (of some sort,) than the other one has. For convenience sake, and for the purpose of distinguishing one from the other, let us call the ram which Mr. Jewett bought from Mr. Hull of Wallingford, No. 1, while the other (the new one,) we will, if you please, designate as Jewett's No. 2. I do not myself believe that these two rams are *very nearly* related to each other, if at all of the same family or blood. Will Mr. J. have the goodness to inform us in regard to it.

I would here inquire of Mr. Jewett, whether he himself, *bred* his ram No. 2. If not, *who* did? I am aware that Mr. H. S. Randall, in an elaborate defence and puff of Mr. Jewett's sheep, (another disguised ram advertisement, of the true Paular sort, headed as usual, with a decoy or catch-pic-



ture,) in the Albany Cultivator for present month (January,) says Mr. Jewett *did* breed him; and Mr. Randall goes on to mention, as if derived from, or by authority of Mr. Jewett, details and circumstances of Mr. J.'s selling the ram when a lamb, and afterward repurchasing him for \$200, &c.; but I have, notwithstanding, also heard it intimated, and have good reason to believe, that Mr. J. did *not* breed the ram. Thinking that there must be some mistake in Mr. Randall's facts and details, and that that gentleman must somehow have been misinformed, I should like to know about it, from Mr. J. himself. I would also inquire of Mr. Jewett if he himself bred *both* the immediate *parents* of his ram No. 2, or *either* of the parents of said ram? If not, who *did* breed them, or *either* of them? but more especially who bred the *dam*, the *ewe* that yeanned the ram No. 2? Is it *known* who bred her, and *where* she was bred, and what was her blood? If so, will Mr. J. please say who and where, and *what*? Was not the said *ewe* supposed to have been brought with other sheep from Long Island, or Rhode Island, or some part of Connecticut, without anything in particular being known of her with certainty, beyond the fact that she was "a good sort of an ewe," but with no knowledge whatever of her blood or breeding, nor as to whether she was (as Mr. Jewett says,) a "Paular, old Merino, or anything"?

As to the *sire* of Mr. J.'s ram No. 2, though certainly by no possibility a *Paular*, I am aware that he is said to have been of Jarvis' mixed blood; but precisely *what* that grade or mixture of blood then was, or now is, it would, according to all accounts, be pretty difficult, if not impossible, to say. Owing to one cause or another, it is beyond doubt or dispute, greatly changed and deteriorated in its character, from what it was originally, Mr. Jarvis' flock having become essentially *Saxon* in *constitution* and character of fleece. But *how* this assimilation to Saxon, this degeneracy or change for the worse, has happened or been brought about, whether by a Saxon cross, when that delicate sort were in vogue, or otherwise, I will not now undertake to say. There are different opinions in regard to it. But of the fact of their degeneracy and changed character, I believe there exists no doubt nor dispute among candid and experienced wool growers who have examined them.

Mr. Jewett appears to be pretty good at *asking* questions, let us now see if he is equally good at *answering* them. By replying, in a simple and direct manner, through your columns, at his earliest convenience, to the questions I have propounded to him previously and herein, he will oblige many of your readers, as well as

Your obedient servant,  
EXAMINER.

New York, January 17th, 1844.

P. S. Besides furnishing us the name and residence of the owner of the 400 pure Paulars, from which he says, a *part* of his own flock is a *branch*, I hope Mr. J. will have the goodness to say *how many* of his sheep, precisely *what number*, were obtained "from that flock of Simon Pures," and whether his pictured rams, No. 1, otherwise called *Pedro*, and his new ram No. 2, or either of

them, were of the number. Even if Mr. J. should not be able to furnish us the pedigrees of his *whole* flock, (which can hardly be expected of him in regard to such a mixed medley of sheep,) yet I do hope he will forthwith give us that of his pictured ram No. 2, alias "Fortune," all the particulars, chapter and verse, including most especially with fulness and accuracy, the pedigree of the buck's *dam*. We want to know all about the blood and breeding of that ewe. It can not of course require much time or trouble to furnish the pedigree of a *single* sheep, and of course so important a pedigree as that of his principal "stock buck," Mr. J. would be likely to have "all by heart" as the saying is, or at least where he could easily lay his hand on it. We will thank you for it, Mr. Jewett, if you please, and hope you will be so obliging as to furnish it *soon*, to the readers of the Agriculturist, many of whom are anxious to hear from you, about the pedigrees and *purity of blood* of your full blood, spurious, Vermont Paulars.

#### SOUTHERN CALENDAR FOR JULY.

As a general rule, give the cotton-crop its last working this month; some seasons the weeds will be too large to work with plows without injury even before the 10th. Keep the fields clean; if your intention is either rotation, or cotton to succeed cotton, it will save labor next year.

Pay particular attention to your tobacco-fields. When the plants have acquired from twelve to fourteen good leaves, and are about knee-high, begin to top them by nipping off the bud with the aid of the finger and thumb-nail. Take care not to destroy the small leaves near the buds, for if the land be good and the season favorable, the very top leaves will, in a short time, be nearly as large, and ripen quite as soon as the lower ones, whereby two or four more leaves may be saved; thus obtaining from sixteen to eighteen leaves in the place of twelve or fourteen. As the topping of the plants is essential, in order to promote growth, and to equalize the ripening of the leaves, this operation should be commenced the instant that the bud shows a disposition to go to seed; and should be followed immediately by removing the suckers as fast as they appear, which will now put forth at every leaf.

The blades from the early-planted corn can now be stripped for fodder. Let the shuck or husk on the ear change from the green to the whitish cast, then tie a handful or so to itself, and thrust the end of the tie between the ear and the stalk. Do not break down the stalks; for it will require more time to strip the blades, but in the end there will be a gain; for it can be got in sooner if a rain threatens, or if caught in a rain, it will not be injured so much. Cure the corn well before stacking. Late corn will need plowing in this month, and peas may be planted among it as directed in May.

The late plantings of potato drawings and the plantings of vines, will require plowing, and drawing up with a hoe; continue to plant out vines. If there is not ground enough in the potato patch, bed up ridges in the early corn-fields. Two furrows will do to plant on, which will not materially injure the corn; or plow up a choice piece of stubble ground anew.

Millet-grass must be cut when just turning, if for feeding, and treated in the same manner as stacking oats.

If your crop will admit of it, grub up small growth; cut down saplings; and deaden greens, for a calf pas-

ture, to be sown in September or October with rye. Plowing will be unnecessary, the fall of the leaves will cover the ground, and the grain will spring up and give a fine bite for the winter. Make artificial pools in your pastures for stock, if there are no natural ones.

Prepare a turnep-patch, either old ground by manuring high and plowing, or a piece of new ground. The cotton-gathering season is now rapidly approaching; prepare basket and sacks to pick in, all leisure time, especially all wet days. Top cotton the last of this month, either by pinching off the tender top part of the plants, or cut off with a knife. Repair buildings, and fences about fields; rake up leaves and haul on the land; gather manure and house it under sheds or give it a coating of earth.

If there are showers, plant French beans; sow more endive; prepare the ground for transplanting cabbages that are coming on, in the last of this month. If the weather be very dry and the soil unfit to work, prepare drills two feet apart, and about eight inches deep, and pour into them some cow-dung water. Transplant your cabbages into those drills and leave them four or five days without watering. Then repeat the operation with the manure-water once more, and there will be no danger of the plants burning up. Should the season be rainy this precaution will be unnecessary. Sow more carrot-seed and proceed as directed in June.

#### NORTHERN CALENDAR FOR JULY.

FINISH hoeing out your corn, potatoes, and all other crops, and make early preparation for harvesting. See that your tools are all in order, and a full supply of each. Get the best you can procure. A man may earn the extra cost of a good scythe or cradle, in a single day's work, besides the promotion of good morals, by the better humor he is kept in. Get rakes and pitch-forks which you know wont break by fair usage; by all means prepare a horse-rake, which may be made as simple as a hoe. A man with a steady horse, may do the work of 8 men with one.

Clover should be cut while just going out of bloom, when the heads are partially turned brown. It ought never to be spread. Let it lie in the swath till wilted; if they are very large or heavy, they may be turned over after the upper side is sufficiently dried. As soon as this is done, let them be raked into winrows, and soon after cocked in small high piles. This should always be done the first day, and if very hot, may be done within a few hours after cutting. Let it stand in these cocks till it has sweat and become cool, and comparatively dry. It may then be taken into the barn or stacked, and well salted. Lucerne is to be treated in the same way. Timothy and red-top should not be cut till the seed is in full milk, so that it will ripen after being cut. It ought never to get so ripe as to shell when fed out. These may be exposed to the sun longer than clover, but less than is usually practised. Our hay is frequently dried too much, and some who never spread their hay from the swath, much prefer it thus cured. It is better to allow it to cure in the cock, when it is always safe against sun, dew, and rain. Grass ought never to be exposed to the dew while spread. A few days of sun and dew while thus exposed, render it almost worthless. Hay may always be carried into the mow or stack sooner, by using salt freely: at the rate of four quarts to the ton is our rule. Besides lessening the risk from rain, the salt is always worth much more than its cost for the cattle and manure, and it will thus confer a triple benefit by answering successively the purposes of each.

Much of the wheat, oats, and barley may be harvested this month. The cleanest fields, or portions of them, should be selected for seed, but not the heaviest or largest growth. Seed is better if grown on moderately poor land, than on the best. Prof. Sprengel has shown from experiments, that grain matured on the richest land, though eminently fitted for food, contains too much gluten for seed; while that which is produced from poor land has a greater proportion of starch, which is the natural food for the young plant. The part thus selected should be allowed to mature the seed fully while standing; the grain intended for consumption, ought to be cut while the berry is yet soft, in the dough state. Such grain will produce more flour, and of a better quality than when dead ripe, besides being much less liable to shelling and waste. After moderate exposure to sun, rake up in bundles, or if well ripened, rake up at once, and bind soon after, when if it requires additional curing it may be finished in the shock. If put in stacks, these should be carefully placed beyond the reach of vermin, and so arranged as to have a circulation of air upward through the centre of the stack, to avoid mould and injury to the grain. The utmost care in stacking ought always to be used, to avoid injury from rain, and blowing down from high winds.

**KITCHEN GARDEN.**—Cabbages of the several varieties can now be planted for late crops. Moist weather should be selected for this purpose, and the plants immediately and frequently watered, until they are well rooted. Melons, squashes, pumpkins, &c., ought to be carefully hoed, and kept entirely free from weeds; otherwise, they will not produce good fruit. Melons and cucumbers for pickles can be sown in the early part of this month. Sow kidney-beans, small salad, carrots, turneps, and spinach, for fall and winter use. Celery should be planted out in trenches; and some varieties of radishes and peas may be sown with reasonable prospect of success, if the season should prove moist. Egg-plants, peppers, and tomatoes, plant out, if not done before. Collect all the vegetable seeds that have come to maturity, and dry them well before putting away; also gather herbs as they come into flower, and dry them in the shade, that the sun may not injure their flavor. Pull up the stalks of beans, peas, &c., which have done bearing. Water may be frequently and beneficially applied, but it should always be done at the close of the day, otherwise the plants will be injured by the heat of the sun.

**FRUIT-GARDEN AND ORCHARD.**—Budding may be performed upon pears and apples the latter part of this month. Gather from the trees, and give to the cattle or swine, all fruit that is decayed or punctured by the insect, otherwise the insect, which now exists as a worm in the premature fruit, will soon be able to fly and attack the remainder. Also, continue to cut off all the wood as fast as it may appear to be infested by the insect which produces a black knot. Keep the ground well cultivated among the trees. There is very little else to be done in the fruit-garden this month, excepting it may be to consume its productions, for which directions may possibly not be requisite.

**FLOWER-GARDEN AND PLEASURE-GROUNDS.**—Bulbous and tuberous roots can now be taken up, and tulips, hyacinths, &c., carefully put away for planting in the fall. Herbaceous flowering-plants may still be transplanted from the seed-bed to the border, and should be taken up with as much earth as possible about the roots. Hedges can also be clipped in the early part of this month. Walks and borders keep constantly clear of weeds, and let a general air of neatness pervade every part of the garden.



## FOREIGN AGRICULTURAL NEWS.

By the arrival of the steampacket Acadia, we are in receipt of our European journals to the 4th of June.

**MARKETS.**—*Ashes* have given way some and are dull of sale. *Cotton* has been gradually falling through the whole month of May, making a reduction of full  $\frac{1}{2}$ d. per lb. from former prices. It is still  $\frac{1}{2}$ d. higher than in the months of June, July, and August of the past year, but is now thought to have reached its lowest point. The import into England since the 1st January, is 518,000 bales, against 967,000 of same period last year. The stock on hand is 690,000 bales, against 855,000 last season at this period. The operations are large, but the prices without remarkable activity. *Flour and Grain* are in limited demand. In *Provisions* we see little change. *Beef and Cheese* rather more sought after. *Lard-Oil* scarce. *Naval Stores* in fair request. *Rice* remains firm. *Tobacco* flat, and sales fallen short the past month full 600 hogsheads.

*Money* continues abundant. Sir Robert Peel has brought into Parliament a new project for the charter of the Bank of England which will have some effect on the monetary affairs of the country: none of an unfavorable character, however, are anticipated. The bank has upward of £16,000,000 in its vaults, about \$80,000,000!

*American Stocks.* These we are happy to say, since Pennsylvania has determined to pay future interest on its debt, are on the rise, and considerable activity is displayed in them.

*Business generally* is very brisk. All the manufacturing branches are particularly well employed.

*The Weather* has been dry and cold with some sharp frosts. Grass and potatoes will be short. Wheat and other grain crops look uncommonly promising.

*American Pork.*—It is certain that American pork can occupy the market when Americans are prepared to supply the article required. In order to effect sales of the most desirable lots of American pork that have been received, it has been necessary to unpack every cask, and trim and scrape, then scrub and wash in clean pickle each piece separately, and re-pack again in clean-washed salt, cutting the larger pieces into four pounds each, and at the same time carefully sorting the quality, so as to make the whole lot run uniformly with 50 pieces in each bbl., and adding a heavy capping of salt on the top, of 8 to 16 quarts. With the foregoing pains and expense, small lots have occasionally been disposed of, at 50s. to 52s. 6d. per bbl. Pork-hams in pickle are again admitted as salted pork legs, and subject only to the same duty as bbl. pork, viz: 8s. per cwt., and 5 per cent. additional.

*Incendiarism.*—We regret to see the burning of wheat and hay-stacks, and, indeed, barns and out-houses, still prevailing to a great extent throughout England. There surely must be some radical wrong toward the rural population, to incite them to such continued destructive acts.

*Growing Mustard for Feed and Enriching Soils.*—I beg to hand you the following statement on the use of growing mustard for seed, or to plow in as a preparation for a wheat-crop. It is very palatable to all kinds of cattle, and I believe very wholesome. I think it far preferable to buckwheat, or any other vegetable with such rapid growth. I sowed 5 acres on the 11th of July last, on rather inferior land, of a light gravelly soil with chalk subsoil, where early turneps for wheat had failed. It should be drilled 5 inches apart, with 12 pounds of seed per acre. On the 25th of August I had measured portions cut in different parts of the field, and weighed, which, on a fair calculation, yielded 6 tons per acre—it was in full bloom—and the next

day I plowed it in; which I consider, being full of vegetable matter, must be an excellent dressing for a wheat-crop. I would invite any friend to make trial of mustard on better land than mine; the expense being so trifling compared with buckwheat, which is 5s. per bushel, and requiring  $2\frac{1}{2}$  bushels per acre, would be 12s. 6d.; whereas 11 lbs. of mustard-seed, at 2d. per lb., the price it is now selling at, would be 2s. per acre.

*Plum-Pudding for the Million.*—Take half a pound of flour, half a pound of grated carrot, half a pound of grated potatoes, a quarter of a pound of suet, and a little seasoning. Mix them well together, and boil in a basin an hour and a half. You will then have a cheap and excellent plum-pudding for a trifle more than sixpence! Just try the experiment.

*Salting Instrument.*—So great is the pressure produced by Carson's patent instrument for salting and curing meat, equal, as is stated, to from 200 to 2,000 pounds upon a square inch, that a large joint may be salted by it in a few minutes, with half the quantity of salt usually employed. The meat, at the same time, it is said, is rendered more tender, and its nutritious properties retained. How great must be its utility to emigrants, captains of vessels, and residents in tropical climates, it is almost superfluous to mention. For general family use it will, however, be found highly advantageous.

*Prolific Cows.*—Mr. James Clapham, of West End Farm, Bramfield, has a remarkably fine Suffolk cow, which has been in his possession for seven years, and has during that time produced the extraordinary number of twelve calves—two at each birth—all of which it has brought up. Such regular and unvarying fruitfulness, for so long a period, is, we believe, without a parallel.

*Another Prolific Ewe.*—A few days ago, one of the ewes belonging to Mr. Spooner, Shuttington, near Tamworth, produced five lambs, which, with the prolific mother, are all doing well. This is her third year; last year she had four lambs, and the first year two.

*Enormous and Prolific Cauliflower.*—A cauliflower was gathered in the garden of Mr. Gutteridge, grocer, Hincley, on Monday last measuring 30 inches in circumference, and weighing 10 lbs., and one nearly as large was cut from the same stalk last year. It is still kept in the ground, as it may produce another.

*Wasps.*—Peter Fry, Esq., of Compton House, has killed no less than 145 queen wasps within the space of six weeks, thereby preventing so many nests. An excellent and useful paper on the destruction of these insects was read at the monthly meeting of the Swansea Gardeners' and Amateurs' Society, by Mr. Webby, gardener to L. W. Dillywan, Esq., Sketty Hall. There are two species, the most destructive of which, both from its size and number, is the *vespa vulgaris*, or common wasp. It is important to know that the only portion of these insects which survive the winter are females, each of which in the spring erects for herself a nest in which to deposit her eggs and rear her young. Mr. Webby, therefore, proposes that a premium of one penny should be offered for every wasp that shall be captured in the months of April, May, and June; and three pence for every nest that shall be destroyed at any time afterward. The suggestion will doubtless be acted upon by grocers and every owner and occupier of a fruit-garden.

*Warbles in Cattle.*—A few applications of strong brine will at once destroy warbles in cattle, in whatever stage they may be found to exist; after which the animal will thrive better, and when it comes to be slaughtered, both the hide and the carcase will be more valuable.

*Oil as a Manure.*—All crops chemically considered are composed,

1st. Of mineral constituents, as a base, viz: of compounds of soda, potassa lime, and magnesia, with phosphoric, sulphuric, muriatic, and carbonic acids, also a little sulphur and iron, and other constituents are called the fertilizing ingredients of the soil, and are obtained by the plant from the soil only.

2d. Of gaseous constituents, viz: oxygen, hydrogen, nitrogen, and carbon, supplied to the plants in sufficient quantity by the atmosphere in the forms of water, carbonic acid, and ammonia, and form all the compounds obtained from plants in the form of gum, sugar, starch, and gluten, and exist in them in the proportion varying from 90 to 99 parts in the 100 of all growing crops, the remaining (from 1 to 10 parts) being mineral constituents.

That these gaseous constituents, though forming such a large proportion of all vegetable matter, are obtained entirely from the atmosphere and need not be added by the farmer.

That it is the presence in the soil of the mineral constituents only that renders it fertile and productive, by affording to the growing crops a sufficiency of these ingredients to form a proper and sufficiently strong plant in its young state, and by that means enabling it to take full advantage of the constituents supplied by the atmosphere, and so form a full-grown and healthy plant such as is required for the production of a good crop of grain.

That the most eminent agricultural chemists find that barren soils are deficient in these mineral constituents only, and that fertile soils contain them in abundance.

That, therefore, the whole secret of tilling the soil consists in the addition of the mineral constituents only, and in such proportions as are required for the crops to be produced, trusting to the atmosphere entirely for the supply of the gaseous constituents.

That oil is composed of gaseous constituents entirely, and can not give to the soil or crop any mineral constituents, but by its decomposition it affords a stimulating compound (ammonia) which forces the plant to excessive growth, and completely exhausts the soil of any mineral constituents that it may contain, and thus it is like a spur to a tired horse, in lieu of a feed of oats, and that land tilled with oil must soon become exhausted and nearly worthless.

*Guano in the Island of Ichaboe.*—It appears from an interesting article in the Glasgow Herald, that it was through the information of the master of an American whaler, at the Cape of Good Hope, given to Captain Farr, an Englishman, that the first cargo of guano was brought to this country from Ichaboe, by the latter, who has since made a second voyage to the island, and pointed out the way to other ships, in accordance with a negotiation entered into with their owners. The writer in the Herald thus concludes:—

At the time of Captain Farr's first visit, the island was covered with penguins, gannets, &c., but principally the former, in numbers which altogether defied calculation. They seemed to have no acquaintance with, nor fear of man, and in fact offered a resistance to his encroachment on a domain which had been peculiarly their own for thousands of years. Since the crews of so many ships, however, were located at the island, the birds have almost entirely deserted their former territory, and retired to fulfil the purposes of their nature in more remote and inaccessible shores. The specimens of the penguin from Ichaboe which we have seen are about two feet in height, and as a great portion of their time is spent in the sea, they are furnished with small flaps or paddles, instead of wings,

which enable them to progress through the water with great velocity, though they are unable to fly. The female lays and sits upon one egg at a time, and a hole scratched in the deposit subverts all the purposes of a nest. In this way a succession of incubations go on for several months in the year, the young bird making its way to the sea as soon as it is able. It is the opinion of the seamen, however, that vast numbers of them never reach their destined home in the waters, but are crushed to death in their progress to it, by the dense battalions of birds which have almost to maintain a struggle for bare standing-room; and in this way the guano heaps are increased as well by the bodies of their birds as by their droppings. The bodies of seals are also found on the surface of the guano deposits, which leads to the belief that they may have occasionally taken shelter there from a storm or hurricane, and having been overpowered by the potency of the ammoniacal vapor, have been unable to return to the water, and died where they lay.

The guano which is brought to this country is found under a loose covering of decayed birds, recent dung, &c., and it is so firmly imbedded that it requires to be dug out by the laborious operations of the pick-axe. When thus disengaged it is put into bags, and transferred by means of a sort of rope-ladder, from the island to a boat, which lies at the outer edge of the surf, and thence it is daily emptied into the hold of the vessel, which is anchored at a short distance. Ten men will lift about fifteen tons per day, but the operation is a very laborious one, and the sun is so powerful that few of the crews escape without having their faces and hands blistered so that the outer skin is peeled off. The trip to or from the island extends to from fifty-five to seventy days, or, including the time necessary to take in a cargo, a voyage out and home extends to from six to seven months. When Captain Farr left Ichaboe he estimated the guano deposit on that island alone to extend to one thousand feet in length, by five hundred feet in breadth, with an average depth of thirty-five feet, containing, perhaps, from 700,000 to 800,000 tons. It is evident, therefore, that this supply will soon be exhausted in fertilizing the soil of Great Britain and her dependencies, but it is to be hoped that vast stores of it yet exist, which have hitherto never been disturbed by man. On this subject we quote the following cheering statement from the South African Commercial Advertiser, published at Cape Town in January last:—

"On the rocky headlands, or on the rocky and unmolested islands on the west coast, both within and beyond the boundary of this colony, where the sea-fowl, from a vast expanse of open ocean, come to breed, enormous masses of this manure have recently been discovered; and it seems probable that all the way up the coast into the gulf of Guinea, and beyond it, similar treasures await the agriculture of the world, by which means the sea will render back to the land much more matter fitted to form organized, that is, vegetable and animal substances, than the rivers carry down into its depths, or the fleets of the nations deposit in their course over its surface."—*New Farmers' Jour.*

*The Shirt-Tree of America.*—In the forests of the Oronook, there is a tree which often attains the height of fifty feet. The natives make shirts of the bark of this tree, which requires only to be stripped off, and to be deprived of its red and fibrous parts; the shirt is thus formed without seam. The head is thrust through one end, and two lateral holes are cut to admit the arms; the natives wear these shirts in the rainy seasons, which, according to Humboldt, are equal to any of our Macintoshes for keeping out the wet.



## Editor's Table.

**Stealings.**—With all due deference and respect to exchange papers, and with as much of the *suaviter in modo* as the nature of circumstances will admit, we beg leave to say, that we fear, in process of time, we shall be under the necessity of coming to the *fortiter in re*, and characterize things by their proper names. During the month of May last, we counted up in different exchange papers, twenty-seven articles STOLEN from our February, March, and April numbers of this year, placed in their columns without credit; and during the past month we think we have observed quite half as many more. Besides all these, our friends inform us of some others which we have not had time to look over. Verily this is an *honest* world, and the printer's devil is a shining or rather a BLACK light in the way of an *exemplar* in it. But the beauty of all this honesty is, nine times out of ten, when these THIEVINGS (we beg pardon, we are disposed to be polite, we only mean STEALINGS) are pointed out to them, they take no sort of notice of the matter, and never stoop to make a correction. They seem to reason like a certain corporation we wot of, which was thus—"It was indeed a great *wrong*, but having been done, we don't see how it can be made *right* by an acknowledgment." If we should call names hereafter by way of letting the world know who is *not* guilty, we think it will be nothing more than is due to the honest and honorable. Let those, therefore, cabbaging without ceremony from other people's cribs, hereafter beware; we had just as lief they would filch our purse as filch our paper—the one is no more stealing than the other.

**Early Prairie-Breaking—Shallow Plowing.**—A writer in the *Prairie Farmer* contends, that breaking up in May is much better than later, and plowing 2½ inches deep has proved more beneficial than 4 inches. The reason of the latter, is, that the harrow tore the sod of the shallow plowing more easily than that turned over deeper. Not long since we saw some plows destined for the west, with peculiar flat cutting shares, with which the purchaser informed us he intended plowing his prairies about 2 inches deep, by cutting off the tops of the sod, and turning it flat over. Will any of our friends at the west inform us whether this is a successful practice?

**South Down Sheep taken for Leicesters.**—We are somewhat surprised that the sharp editor of the *Massachusetts Plowman* does not know a South Down sheep from a Leicester. Why, we should just as soon think of his taking a rhinoceros for an elephant.

**Poisoned Sheep.**—A writer in the *Maine Cultivator* says, that sheep poisoned by eating *laurel*, or lamb-kill, may be cured by a liquor made by boiling the twigs of the white ash for an hour, first bruising the twigs, then give two spoonfuls to each sheep. He says it is a certain cure if it is administered in twenty-four hours.—*Mass. Plowman.*

**Soap-Suds a Preventive for Shedding Milk.**—A farmer from Stoughton told us last week, that washing the ends of cows teats in strong soap-suds, would prevent the shedding of her milk before the time of milking. Perhaps it tends to contract the ends of the teats.—*Id.*

**Premium Cotton.**—We perceive that the Chamber of Commerce, at Apalachicola, has awarded an elegant silver tea-set to Col. Alexander McDonald of Eufaula, Alabama, as a premium for the best lot of 20 bales of cotton sold last season in the market. It was classed *fine*, no other lot classing over *good fine*. In addition to this, Col. McD. had the solid satisfaction of receiving 10½ cents per lb. for his premium cotton. We do not know

what other cotton was worth at the same time, but presume not over 6 to 7 cents. If any one wishes to learn how Col. McD. succeeds in raising such superior cotton, let him turn to our last number, page 179, and he will see that one means he adopts, is reading agricultural papers; the whole expense of which for 20 years, is doubtless repaid him in the value of the above premium, and the extra price obtained for these 20 bales of cotton. Reader go thou and do likewise.

**To Destroy the Curculio.**—Previous to 1841, several of my plum-trees had been so attacked by this insect that I scarcely obtained a ripe plum. Early in the spring of that year, as soon as the blossom-buds began to swell, I removed the soil around the tree to the depth of two or three inches, and as far on all sides as the limbs extended. I then deposited in the opening a layer of lime, recently slaked and still warm, about half an inch in thickness. The soil was immediately restored to its place over the lime, and closely pressed down upon it. I had an abundant crop of well-ripened plums. In the spring of 1842, I again applied lime in a similar manner, and with the same success.

In the autumn of that year, it was stated in some agricultural journal, that salt sprinkled around the tree in sufficient quantities to render the ground *whitish*, would prevent the ravages of the curculio. In 1843 I made the experiment. The trees blossomed well and showed an abundance of fruit; but every plum was attacked by this insect and fell to the ground.

I intend to apply the lime again the present spring; and if I obtain a good crop of ripe plums, my confidence in this remedy will be strong.—*Boston Cult.*

**Big Grain Rice.**—Mr. Ward in the *Southern Agriculturist* says, that he planted half an acre of new land with this at Longwood in the spring of 1841, which yielded in the autumn 49½ bushels of clean winnowed rice. In the year 1841, this product was sown in a 21-acre field at Brook Green, which yielded in the autumn, 1,170 bushels of sheaf-rice, clean winnowed. Of this quantity, from 150 to 200 bushels were milled, and sent to market. My factors disposed of it at a considerable advance beyond the highest market price. In the year 1842, I planted 400 acres with this seed, and being so perfectly satisfied with both the product and the improved quality of the same, I was induced in the succeeding year (1843) to sow with it my entire crop. The first parcel, when milled, consisting of eighty barrels, netted *fifty cents* per cwt. over the primest new rice sold on the same day.

**Marling Light Sandy Soil.**—In the same paper Mr. Hammond gives the following results of an experiment in marling:—

Unmarled acre,	361 lbs. seed cotton.
100 bushels do.	451 do. Increase 90 lbs. 24.9 per ct.
200 do. do	384 do. do. 23 6.3 "
300 do. do.	173 do. decrease 188 52 "

The land, being very old, is bare of vegetable matter for marl to act on, to which more than to the texture of the soil, inferior as it is, I attribute the failure of any great improvement from it. I make the statement, however, because it is valuable in many respects. It shows the danger of heavy marling on worn land without previous rest or manure. The acre with three hundred bushels has been destroyed. There is one rich spot, the bottom of a small basin in the centre of it, which produced nearly all the cotton gathered. On the rest of it the weed mostly died as soon as it came up—one hundred proves a better quantity than two hundred bushels, and perhaps a little less would have been still better on this soil—at least to begin with. All the lightest land in the fields marled with two hundred bushels was evidently injured and now requires

help. I anticipated this effect from what I saw last year, and reduced the quantity to one hundred and fifty bushels on all the land then marling. I have reduced it now to one hundred bushels, and shall hereafter marl at that rate. I prefer to go over it again after I have finished all, and give it what it may prove itself able to bear after resting once or thrice.

The crop of this year has satisfied me perfectly that cotton will mature at least a fortnight earlier on marled than on unmarled land.

Another unexpected effect of marl it may be worth while to state. I commenced in the spring of 1842 to put it in my stable, pretty freely for the purpose of improving my manure. I did not think of its having any material effect on the health of the mules. But I have had but little sickness among them, and have not lost one since, while previously I lost on the average four annually, and never in any year, less than two. I attribute this change in a great measure to the absorption of noxious gases by the marl.

I am now marling as actively as heretofore, and I esteem it so beneficial that I have this summer marled a field of over two hundred acres, the average haul of which is three miles from my landing: and being tolerable fresh land that has rested this year, and was sowed in oats last year, which were not cut but grazed down after ripening, I have put on a hundred and fifty bushels.

*Mode of Applying Guano.*—1. It should never be applied in contact with seeds, as it kills them as soon as they begin to vegetate.

2. It should be mixed as equally as possible with about four times its bulk of finely pulverized earth, or peat-ashes, (cold.) If sand is used, about twice its bulk will be sufficient.

3. The quantity per acre may vary from two to four cwt., according to the nature and quality of the land. Recent experiments have shown that a quantity which proved highly beneficial in poor soil, became deleterious upon land previously rich.

4. The best time for applying it is shortly after vegetation has commenced, and immediately before rain, or during damp warm weather.

5. The best mode of application is, to divide the quantity per acre into two or three equal parts, and sow them broadcast at intervals of about ten days or a fortnight.

6. For small allotments it may be more convenient to use it in a liquid state—in which case, mix 4 lbs. of guano with 12 gallons of water, and let it stand for 24 hours before being used. The same guano will do for mixing again with the same quantity of water, after the first is drawn off.—*London Gar. Chron.*

*Great Fecundity.*—A gentleman of this city, of the highest respectability, called at our office a few days since, and stated that a sow on his farm in the neighborhood had the evening before given birth to eleven fine full grown pigs, and that about twelve hours after, she produced another litter of ten, about three fourths matured—evidently the result of a second conception.—*Southern Planter.*

*To Preserve Eggs.*—Take 1 bushel of quick lime, 2 lbs. of salt, 8 oz. of cream of tartar, mix the salt with as much water as will reduce the composition to a consistency that an egg will swim in it when put in. Eggs are thus preserved two years.—*Ellsworth's Report.*

*Simple Mode of Purifying Water.*—It is not so generally known as it ought to be, that pounded alum possesses the property of purifying water. A tablespoonful of pulverized alum, sprinkled into a hoghead of water, (the water stirred at the time,) will after a lapse of a few hours, by precipitating to the bottom the

impure particles, so purify it that it will be found to possess nearly all the freshness and clearness of the finest spring-water. A pailful, containing four gallons, may be purified by a single teaspoonful.—*Southern Planter.*

*Protection of Peach-Trees from Worms.*—Screenings of anthracite coal are a good protection of peach-trees against worms. Place around each tree, a box two feet square and six inches deep, and fill it with coal, and they will have no indications of worms around them.—*Morristown Jerseyman.*

*To Destroy Worms in Peach-Trees.*—Scoop the earth from about the root of the tree, so as to form a bowl to be 18 to 24 inches from the tree; do this about the first of September; let it remain so until the first of December; then fill the bowl level with wood-ashes; I have used leached ashes with uniform success; I have no doubt that lime will do as well or better than ashes. By exposing the roots to the sun and air, the propagation of the worm is checked.—*Louisville Journal.*

THE CHEMICAL AND PHYSIOLOGICAL BALANCE OF ORGANIC NATURE. An Essay, by J. Dumas and J. B. Bousingault. Edited by D. P. Gardner, M. D., Lecturer on Agricultural Chemistry, &c. From the third edition, with new documents. Published by Saxton & Miles, 205 Broadway—price 50 cents.—The above is a valuable little work of 174 pages, and is prefatory to a more detailed and elaborate treatise which is in press from the same authors, and will soon be published. We can not present a better idea of the one before us, than in an extract from the preface by M. Dumas. "This essay presents a variety of new views, calculated to supply general physiology, medicine, and agriculture, with grounds upon which the study of the chemical phenomena that take place in organized beings may be advantageously pursued." Dr. Gardner has added a few notes, thereby much enhancing the value of the American edition.

THE ECONOMY OF WASTE MANURES: A Treatise on the Nature and Use of neglected Fertilizers, by John Hannam of Yorkshire, England. Carey & Hart, Philadelphia—price 25 cents. Here we find within the compass of 94 pages, where invaluable fertilizing materials now usually going to waste may be had; such as liquid drainings from cattle-sheds and manure-heaps—sewerages of towns—waste of manufactures of woolen, flax, soap, gas, sugar, tanning, &c., &c. Most of these substances have too long been considered mere nuisances, not only in England, but in this country, and the public should be obliged to the author of the above work for calling attention to their value for the farmer, in the clear forcible manner in which he has done it, for they are among the cheapest manures, and most highly-fertilizing materials that can be found, to enrich his lands and increase his crops.

TO CORRESPONDENTS.—T. F. When you solicit a favor which is of no earthly interest to the person addressed, and which gives him considerable trouble, it would be no more than fair at least to pay your postage. Our purse (we speak not of our time) is too often taxed in this way by correspondents, who will do well to remember this, and consider it as a general hint to all concerned. We have inserted an advertisement, which is the best method we know of for effecting your object. There will be no charge for the same.

Dear Mr. Tioga. As a member of one of the committees in question, we had no confidence in our knowledge or ability to make a satisfactory report, and therefore forbore doing so. We presume others came to the same conclusion, as we have seen neither hide nor hair of said convention, nor any reports of its doings since it adjourned in this city last October.



REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JUNE 25, 1844.

ASHES, Pots, .....	per 100 lbs.	\$4 19	to	\$4 25
Pearls, .....	do.	4 50	"	4 56
BACON SIDES, Smoked, .....	per lb.	3 1/2	"	4 1/2
In pickle .....	do.	3	"	4
BALE ROPE .....	do.	6	"	9
BARK, Quercitron .....	per ton	23 00	"	24 00
BARLEY .....	per bush.	60	"	62
BEANS, White .....	do.	1 25	"	1 75
BEEF, Mess .....	per bbl.	5 00	"	7 00
Prime .....	do.	3 00	"	5 00
Smoked .....	per lb.	5	"	7
Rounds, in pickle .....	do.	3	"	5
BEEFWAX, Am. Yellow .....	do.	28	"	31
BOLT ROPE .....	do.	12	"	13
BRISTLES American .....	do.	25	"	65
BUTTER, Table .....	do.	12	"	15
Shipping .....	do.	8	"	12
CANDLES, Mould, Tallow .....	do.	9	"	12
Sperm .....	do.	29	"	38
Stearic .....	do.	20	"	25
CHEESE .....	do.	3	"	7
CIDER BRANDY, Eastern .....	per gal.	35	"	40
Western .....	do.	35	"	40
CLOVER SEED .....	per lb.	7	"	8
COAL, Anthracite .....	2000 lbs.	4 25	"	5 25
Sidney and Pictou .....	per chal.	5 75	"	6 25
CORDAGE, American .....	per lb.	11	"	12
CORN, Northern .....	per bush.	47	"	48
Southern .....	do.	45	"	46
COTTON .....	per lb.	5	"	10
COTTON BAGGING, Amer. hemp per yard.	do.	16	"	18
American Flax .....	do.	15	"	16
FEATHERS .....	per lb.	28	"	33
FLAX, American .....	do.	8	"	8 1/2
FLAX SEED, rough .....	per 7 bush.	9 00	"	9 75
clean .....	do.	10 00	"	10 50
FLOUR, Northern and Western .....	per bbl.	4 31	"	4 75
Fancy .....	do.	5 00	"	5 25
Southern .....	per bbl.	4 25	"	4 75
Richmond City Mills .....	do.	6 25	"	6 50
Rye .....	do.	2 75	"	3 12
HAMS, Smoked .....	per lb.	5	"	10
Pickled .....	do.	4	"	7
HAY .....	per 100 lbs.	30	"	32
HIDES, Dry Southern .....	per lb.	9	"	11
HEMP, Russia, clean .....	per ton.	180 00	"	185 00
American, water-rotted .....	do.	140 00	"	180 00
do dew-rotted .....	do.	90 00	"	140 00
HOPS .....	per lb.	7	"	9
HORNS .....	per 100	1 25	"	5 00
LARD .....	per lb.	5 1/2	"	6 1/2
LEAD .....	do.	3 1/2	"	4
Sheet and bar .....	do.	4	"	4 1/2
MEAL, Corn .....	per bbl.	2 50	"	2 75
Corn .....	per bhd.	12 00	"	12 50
MOLASSES, New Orleans .....	per gal.	29	"	31
MUSTARD, American .....	per lb.	16	"	31
OATS, Northern .....	per bush.	29	"	30
Southern .....	do.	26	"	27
OIL, Linseed, American .....	per gal.	73	"	75
Castor .....	do.	90	"	95
Lard .....	do.	55	"	60
OIL CAKE .....	per 100 lbs.	1 00	"	—
PEAS, Field .....	per bush.	1 25	"	—
PITCH .....	per bbl.	1 12 1/2	"	1 37
PLASTER OF PARIS .....	per ton.	2 37	"	2 50
Ground, in bbls. of 350 lbs. ....	per cwt.	1 12	"	—
PORK, Mess .....	per bbl.	8 25	"	10 00
Prime .....	do.	6 00	"	8 00
RICE .....	per 100 lbs.	2 75	"	3 25
ROBIN .....	per bbl.	58	"	75
RYE .....	per bush.	67	"	69
SALT .....	per sack	1 31	"	1 50
SHOULDERS, Smoked .....	per lb.	4	"	6
Pickled .....	do.	3	"	4
SPIRITS TURPENTINE, Southern per gal.	do.	30	"	32
SUGAR, New Orleans .....	per lb.	5	"	8
SUMAC, American .....	per ton	25 00	"	27 50
TALLOW .....	per lb.	6	"	7 1/2
TAR .....	per bbl.	1 44	"	1 56
TIMOTHY SEED .....	per 7 bush.	11 00	"	14 00
TOBACCO .....	per lb.	2 1/2	"	6 1/2
TURPENTINE .....	per bbl.	2 19	"	2 56
WHEAT, Western .....	per bush.	90	"	95
Southern .....	do.	95	"	1 90
WHISKEY, American .....	per gal.	22	"	24
WOOL, Saxony .....	per lb.	35	"	50
Merino .....	do.	35	"	40
Half-blood .....	do.	25	"	30
Common .....	3do.	20	"	25

New York Cattle Market—June 24.

At market, 1100 Beef Cattle. 325 from the north; 120 Cows and Calves, and 2500 Sheep and Lambs.  
**PRICES.**—*Beef Cattle.*—No alteration, except an increased dullness. We quote for retailing sorts at \$5.50, a \$6.50, with occasionally an extra beast at \$7; unsold 250.  
*Cows and Calves.*—Sales at \$14 a \$28. Left over 20.  
*Sheep and Lambs.*—A large offering, but nearly all sold at \$1.25 a \$4 for sheep, and \$1.25 a \$2.75 for lambs. Unsold 150.  
*Hay.*—An abundant supply at 56 a 67 cents per cwt. for loose by the load.

**REMARKS.**—*Ashes*, after the late fall of prices, are now firm. Cotton has further declined 1/2 to 1/4 cent per lb. since the arrival of the Acadia. Export from the United States since 1st September last, 1,425,383 bales; same time last year, 1,584,948; same time year before, 1,310,694. *Flour* is dull. *Wheat*, the same. *Corn* and *Rye* more active. *Hay* is pressing upon the market, and is slow of sale. *Molasses* and *Sugar*, quiet. *Provisions*, without change since our last. *Rice* and *Tobacco*, in moderate demand. *Wool*, the transactions, especially in the country, are brisk, and prices run from 30 to 40 per cent. higher than last year at this time, which will make the handsome additional difference of about \$3,000,000 to go into the farmers' pockets.

*Money* the same as at our last.  
*Stocks* are perhaps a trifle lower.  
*The weather* has been more or less cold and rainy in June, but this has not seemed to deter the ripening of the crops, which are unprecedentedly early. Most of the Wheat and Rye south of Delaware is secured, and proves a large yield. The Hay harvest is going on briskly all around us, and the cut proves of a good quality and very abundant. Cotton, Corn, Hemp, and Tobacco are looking well, and the root-crops throughout the country promising in the extreme. There has been a continued loss on the bottoms of the upper Mississippi and some of its tributaries, especially the Arkansas and Red rivers, from their overflows; in other parts of the south the drought still continues, and the attacks of the *aphis gossypii* or cotton-louse have been quite destructive in some districts, cutting short the crops materially; but the whole average promises to be a good one. West we hear considerable complaint of destruction of the wheat from the fly, rain, and rust; yet, notwithstanding all these offsets, we are of opinion that the crops generally will be uncommonly abundant on the average throughout the country.

GREAT SALE OF ELECTORAL SAXON SHEEP.

The undersigned will sell at vendue, the two flocks of pure Electoral Saxon Sheep, belonging to the estate of the late Henry D. Grove, as follows: 1st. That at Granger, Medina county, Ohio, consisting of about 400 sheep, on the 30th Sept., next, on the farm now occupied by them. 2d. The home flock at his late residence in Hoosick, Rensselaer county, N. Y., consisting of about 350 sheep, on the 15th Oct., next. A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:—

"The purest blood in this country was introduced by the late Mr. Grove in his own flocks, the wool of which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with."

SAMUEL LAWRENCE.

Lowell, April 9, 1844.

The terms of the sales will be cash. Reference, Samuel Lawrence, Lowell, Mass., or the subscribers.

ELIZA W. GROVE,  
W. JOSLIN,  
S. A. COOK. } Administrators.

Buskirk's Bridge, N. Y., April 20, 1844.

JUST PUBLISHED,  
COLMAN'S AGRICULTURAL TOUR.

The first part of Rev. Henry Colman's Report on European Agriculture and Rural Economy, is received. The work will be completed in ten numbers, at \$5.00, \$2.00 to be paid on the delivery of the first number.

SAXTON & MILES,  
205 Broadway.

ARTIFICIAL GUANO.

The subscriber has the best of Artificial Guano for sale, at \$1 per box of 20 lbs. weight, \$5 per barrel of 250 lbs., and \$40 per ton, loose, delivered on board vessels lying at this port. The above manure has been tried in this vicinity and is much liked. It is especially suited for plants in pot or conservatories, as well as the nicer parts of the garden; it is also highly approved of on the farm. For best method of applying Guano see pages 98 and 222 of this paper.

A. B. ALLEN, 205 Broadway.

**AGRICULTURAL AND BUSINESS AGENCY.**

Knowing the convenience that such an agency will be to his distant friends, the subscriber offers his services for the purchase of Wagons, Carriages, Match and Single Horses, Cattle, Sheep, Swine, Agricultural Books and Implements, Seeds and Merchandise of any kind; also, the buying and selling of land, the payment of taxes, &c., &c.

From his long experience as a farmer and stock-breeder, and general acquaintance with lands and merchandise, the subscriber trusts that he shall be able to give general satisfaction. The commission charged for his services in purchasing or selling, will be moderate. Cash or produce must invariably be in hand before orders can be executed.

A. B. ALLEN, 205 Broadway, New York.

**A PROFESSOR OF SCIENTIFIC AGRICULTURE AND MATHEMATICS.**

The Trustees of Franklin College, situated at Elm Crag, near Nashville, Tennessee, are desirous of engaging a Professor as above. A graduate of a college would be preferred, and one who understands French and German. Five hundred dollars with his board will be guaranteed the first year, with a probable increase of this sum thereafter. Address T. Fanning, Nashville, Tenn.

**MADDER SEED.**

The very high prices which the Madder Dyes of France and Holland have attained, are sufficient to excite the attention of our intelligent agriculturists. It is only necessary to take into consideration the immense quantity of Madder consumed in the various manufactories of the United States, to be convinced that the cultivation of this plant would be attended with great advantages, and that it may be undertaken with certainty of profit.

The Madder root can be cultivated in almost every climate. The sands of Silesia, the marshes of Zealand, the arid soils of the south of France and Persia produce it, and of almost equally good quality. It is well known that atmospheric influences make but little impression upon a root, the valuable part of which grows beneath the surface of the soil; and what a powerful guarantee does this circumstance afford to the cultivator of the Madder. It protects him from all varieties of temperature, which so frequently destroys crops of a different nature. For those who cultivate this root, a crop is assured as soon as the seed which they have put into the ground begins to germinate.

A special report upon the cultivation of this plant was laid before the Academy of Sciences at Paris, and a prize awarded to the author. It was written by M. de Gasparin, Peer of France, Member of the Institute, and formerly Minister of the Interior. French Madder Seed, obtained from last year's crops, may be had of the subscribers, who have received a consignment of a considerable quantity. Price \$1 per lb., or at reduced rates when a quantity is taken.

J. M. THORBURN & CO., 15 John st., N. Y.

**AGRICULTURAL IMPLEMENTS, &c.**

The subscribers are agents in this city to sell the following celebrated Machines, viz:

Hussey's Premium Corn and Cob-Crusher, price from \$25 to \$40.  
Dickey's " Fanning-Mill, " \$20 to \$30.  
Platt's " Portable Grist-Mill, &c., \$30 to \$100.  
Also for sale. Hovey's Premium Straw-Cutter, (spiral knives,) prices from \$15 to \$25  
Warren's Premium Straw-Cutter, \$15 to \$25  
Hull's Cornstalk and Straw-Cutter, \$20

Being proprietors of the now celebrated "Warren's Improved Portable Horse-Powers and Thrashing-Machines," they continue to manufacture and sell them with increased success. Some twenty gentlemen having been present at an exhibition of the operation of these machines, state that "having witnessed the practical utility of 'Warren's Improved Horse-Power and Thrashing-Machines,' they cheerfully recommend them to the attention of agriculturists as the most perfect inventions of the character that have ever fallen under their observation."

With the Two-Horse Machines, 30 bushels of oats or barley is easily thrashed per hour, and wheat and other small grain in proportion, clean and excellent, leaving the straw *unbroken* so that it may be gathered into bundles; and not more than three persons are required to tend them. One, two, and four-horse Machines are manufactured. Prices very low. Two-Horse Power and Thrasher together only \$75.—One-Horse \$60.—Four-Horse from \$100 to \$110. Terms, cash in this city on delivery. Liberal deductions made to dealers on all kinds of such machines as we sell.

L. BOSTWICK & CO.,  
146 Front street, New York.

**THORP'S THREE-SHARE PLOW.**

One of Thorp's Three-Share Plows, for which a premium was awarded at the late Fair of the American Institute, for sale, price \$10. Inquire of the Editor of the American Agriculturist, or at the office of the American Institute in the Park. 2t

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Communications for publication, to be directed to the Editor; and all *private* letters, or those on business disconnected with the paper, should be addressed, simply, A. B. Allen, 205 Broadway, New York. F. W. Wilcox, travelling agent.

**SULPHATE OF SODA.**

A maker of Sulphate of Soda has requested me to offer the article, fine-ground, at about one cent per pound. Any farmer, desirous of trying the article, can obtain a supply by calling at 34 Cliff street, N. Y. Extracts from Professor Johnston's work on Chemical Manures, as to the value of this sulphate, will appear in May number of the American Agriculturist.

2t

WM. PARTRIDGE.

**PREMIUM EAGLE, SUBSOIL, AND OTHER PLOWS.**

The subscriber having been appointed agent in this city for the sale of the celebrated Premium Plows, made by Ruggles, Nourse, & Mason, of Worcester, Massachusetts, now offers them at the manufacturers' home prices. They are calculated alike for the northern farmer and southern planter, and embrace every variety, Cotton and Rice plow, Stubble, Sod, Road, and Subsoil. Prices from \$3.50 to \$15.00, according to the kind.

The great number of premiums which these plows have obtained at the most important plowing-matches, and the universal satisfaction they have given wherever introduced, render it unnecessary to particularise their merits. They are made of the best materials, are highly finished, and combine light weight and easy draught, with great strength and durability.

A. B. ALLEN, 205 Broadway, N. Y.

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